

# Lumen Service Description

G-Cloud 13 Managed Microsoft Azure Services



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# Service Overview

## Managed Microsoft Azure Services

Cloud Application Manager is a software-defined managed services orchestration platform that enables the configuration, deployment, and management of applications within hybrid IT environments. Hybrid IT refers to enterprise computing solutions that leverage multiple IT infrastructures including, but not limited to, on-premises equipment, public clouds, and private clouds.

Lumen Managed Services Anywhere provides agile application configuration, deployment, patching, monitoring, troubleshooting, and optimization across a variety of hybrid IT environments. These services are provided for a growing list of fully managed technologies in a highly orchestrated manner by a team of Lumen Cloud Application Manager power users leveraging automation. Services are accessible through the Century Global Operations Centre.

## Compatible Platforms

Cloud Application Manager can be utilised with the following platforms, which are collectively referred to as Compatible Cloud Platforms:

- Microsoft Azure
- Azure VMware Solution (AVS)

## Cloud Application Manager Features

The Cloud Application Manager base features are described in the section below. Certain restrictions and limitations may apply depending upon the product edition and provider utilized by Customer.

## Customer Access

Customers can integrate with their existing Authentication systems with the following authentication protocols:

1. Google Authentication
2. GitHub Authentication
3. SAML
4. LDAP
5. User ID and Password

Cloud Application Manager users can access the entire functionality via API as well as the user interface at [cam.ctl.io](https://cam.ctl.io). Users can create a permanent or a short-term authentication token that can be used to perform API calls.

## Application Lifecycle Management

Application Lifecycle Management provides an orchestration environment for users to deploy and manage multiple hybrid IT environments. This feature allows for the modelling of infrastructure and applications in

Cloud Application Manager once with the ability to deploy multiple times to any of the Compatible Cloud Provider environments. Users can choose to model applications in a cloud agnostic fashion or use one of the Compatible Cloud Provider's native modelling templates like AWS Cloud Formation Template or Azure Resource Manager. Once applications are deployed using the templates, users can manage the lifecycle of the application, auto-scale the infrastructure, update/patch applications without down-time and replicate them across environments.

Application Lifecycle Management also has a Continuous Integration and Continuous Deployment (CI/CD) plugin that can be configured to invoke policies in Cloud Application Manager and update applications and infrastructure residing in the underlying Compatible Cloud Provider platforms, on every code release.

### Application Lifecycle Management Compatible Cloud Providers

A current list of Compatible Cloud Providers is available in the KB article "Providers" available here:

<https://www.ctl.io/knowledge-base/cloud-application-manager/core-concepts/providers/>

### Auto-Discovery

The auto-discovery feature for instances running only on AWS, Azure and Lumen Cloud infrastructures enables visibility of resources that have been previously running. Once a provider is configured, Cloud Application Manager discovers all of the virtual machine instances in that environment and lists them for the user. At that time, a virtual machine instance can be selected and imported. Users register an existing instance so the lifecycle can be managed within the Cloud Application Manager environment.

Additional features include:

- Allows users to use single sign-on to access public cloud provider's management console
- Create a hierarchy of organization, cost centres and workspaces to organize resources to represent various internal environments, teams, and departments
- Allows users to model applications using the ALM framework for configuration management and reusability and build cloud agnostic applications
- Allows users to leverage the cloud provider orchestration templates to deploy provider native services
- Identity and access management allows the sharing of workspaces, applications, and cloud infrastructure across your organization
- Flexibility to deploy applications on supported cloud infrastructures to meet business demands and organizational preferences.
- 

### Value Added Reseller Program (AWS and Azure)

Customers can set up new Amazon Web Services (AWS), Microsoft Azure (Azure), and Google Cloud Platform (GCP) accounts or shift existing AWS or Azure accounts to Lumen Cloud Application Manager. There are three distinct options:

#### 1. Buy a new Azure account directly from Lumen ("Greenfield")

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2. Migrate existing account to Lumen for consolidated billing and support (designating Platform Advisory Support or Managed Services Anywhere) (“Brownfield”)
3. Buy an Azure account directly from the provider to be used with Managed Services Anywhere (“BYOC”)

Authorized Brownfield or Greenfield resale requires additional terms and conditions.

All accounts are required to be fully hardened per the Lumen guidelines (see Permissions and Hardening Policy section).

### Cloud Optimization & Analytics

The Cloud Optimization & Analytics feature provides for hundreds of automated best practices evaluated against AWS and Azure environments. Examples of checks include:

1. Cost Savings
2. Security Utilization
3. Potential Monthly Savings, Idle Resources and Unused Resources
4. Change Monitoring Reports that list all changes performed by Managed Cloud Provider account
5. IAM Admin User Reports

Lumen provides cost optimization, spend analytics, chargeback, and best practice recommendations for BYOC and approved public cloud providers.

This feature is not available for Physical Servers.

### Technical Account Management (“TAM”)

Both support tiers, Platform Advisory Support and Managed Services Anywhere, provide customers with a technical expert and program governance agent(s) available on a next available basis. Technical Account Managers support by way of example, inquiries regarding Application Lifecycle Management, Cloud Optimization & Analytics, AWS, Azure, and Google services. The Technical Account Management responsibilities also consist of i) providing proactive service delivery plans based on the customer strategies, ii) management of support escalations, iii) answering advisory questions related to any of the three core Cloud Application Manager capabilities, and iv) addressing billing inquiries.

TAM tasks provided under Managed Services Anywhere

- Provides Getting-Started activities
- Coordinate service desk and support engineering for hands-on action
- Identify cost/performance optimization and execute recommendations
- Coordinate monitoring policy creation and updates with service desk

- Coordinate modifying and deploying Script, Application, and cloud native templates with service desk
- Coordinate configuring user access and permissions with service desk
- Coordinate more extensive architectural and design services
- Contribute to root cause analysis, problem resolution and remediation
- Respond and provide updates to service requests
- Facilitate patch/backup schedule and communicate upcoming changes

## Lumen-led Cloud Support

Lumen-led Cloud Support is a required support service applicable to Value Added Reseller accounts utilizing the new Cloud Application Manager price plan. This service provides 24x7 multi-cloud technical support for those cloud platforms, escalations to those cloud service providers as necessary, and customer user support for the Cloud Application Manager platform. It also includes use of ALM orchestration capabilities without separate fees. Lumen-led Cloud Support does not include technical support for customer workloads orchestrated through Cloud Application Manager running on these cloud platforms.

## Managed Services Anywhere

The Managed Services Anywhere support tier provides a complete management experience for hybrid IT environments. Managed Services Anywhere is enabled on provider in Cloud Application Manager.

Customers must have or obtain and maintain all appropriate permissions to enable the installation by Lumen of a proprietary management appliance on each Managed Provider environment for which Managed Services Anywhere is selected to enable Lumen to perform its obligations. Lumen will also deploy a remote gateway on the appliance to establish a secure connection between the applicable Managed Provider environment and Lumen to remotely monitor and access the applications within the Customer's environment that Customer designates to Lumen to manage. The connection is monitored and maintained by Lumen.

Any changes to the customer network or environment by Customer that results in degradation or disconnection of the connection will result in Lumen's inability to provide Managed Services Anywhere. Lumen's management fees related to Managed Services Anywhere do not apply to the appliance itself. Instead, Customer will be charged for the applicable Virtual Machine (VM) instance that the appliance runs on. These charges will be reflected on the Customer's cloud provider bill. See Remote Administration in the table below for further detail.

In addition to all of the base features of Cloud Application Manager listed above, the table below describes the standard operational functions of Managed Services Anywhere. Lumen reserves the right to require Advanced Managed Services or other upgrades (subject to additional terms and pricing) for any customer request that is not described in the tables below or otherwise deemed out of scope. Certain support services may be automated or provided by Lumen designated personnel.

## Managed Services Anywhere Product Features

### Levels of Service

The **Alerting** level of service alerts Customer via several communication options dynamically selected by the customer from Cloud Application Manager monitoring of cloud infrastructure and workloads for Managed Technologies in a manner defined below. Lumen service desk does not monitor or respond to these alerts. Lumen provides Customer support for Cloud Application Manager and configuration assistance on monitoring and alerting features as part of this level of service. It also includes use of ALM orchestration capabilities without separate fees. This level of service does not provide management or technical support for customer workloads.

The **Managed** level of service includes all of the features of the Alerting level of service; plus the available managed activities described in the section below. The Managed level of service also includes available Lumen orchestration (e.g. deploying a virtual machine, re-booting) of Managed Technologies for Customer workloads and 24x7 management and technical support of Managed Platforms and Managed Technologies within Customer workloads.

### Workload Tiers

The **Operating System Workload Tier** includes the following Managed Technology workload components: virtual machine, operating system, operating system patches, operating system connections, Lumen provided anti-virus on the operating system, Apache or Microsoft IIS web services on the operating system, and Active Directory service on Microsoft Windows operating system. It also includes the cloud native elements within the Managed Technologies list above until a cloud native workload tier option becomes available in the future. For clarity, should Customer enable this workload tier, Lumen will provide the described managed activities against these components.

The **Non-Cloud-Native Database Workload Tier** includes Managed Technology database instances running on Managed Technology operating system instances that are not cloud native database platform-as-a-service elements of a public cloud.

The **Non-Cloud-Native Web Services Workload Tier** includes Managed Technology integrated web server environment instances running on Managed Technology operating system instances that are not cloud native web server platform-as-a-service elements of a public cloud.

### Management Activities

The management activities listed below are available either through the Managed level of service applied to desired Workload Tiers within Provider Accounts for Customers on the latest price plan or through the

Managed Services Anywhere level of service for individual Cloud Application Manager Provider Accounts for Customers on a prior price plan.

### Configuration Management

- Confirm the initial install and basic functionality of the OS, application components, or native cloud service based on Managed Platform provider's recommended best practices where applicable.
- Perform configuration management on the managed device via Cloud Application Manager's remote administration functionality.
- Maintain version control of deployed VMs, application and services.

### Remote Administration

- Perform systems administration tasks on the Customer's behalf.
- Maintain administrator-level access to all instances and physical servers within the Managed Services Anywhere enabled Managed Platforms; subject at all times to Customer ensuring that Lumen has the appropriate permissions.
- Administrator level access permits Lumen to view physical servers, instances, VMs, the databases, etc.
- Remotely access managed devices on the customer's environment via the remote gateway.
- In order to provide effective remote administration service for Windows Operating Systems, the Lumen proprietary management appliance will serve as an AD controller to which managed Windows servers will join if Customer has not configured an Active Directory. Where Customer's Active Directory exists, a trust between the Customer's



Active Directory and the controller on the management appliance must be established for authentication of Lumen remote administrators.

### Patching and Maintenance

Support and install available critical and vendor-recommended patches. Customers have full control to define when and if Lumen should schedule their patching cycles. Lumen's automated system tracks the change request, performs the patch management, and provides reports. This includes:

- Approving and delivering service packs, cumulative updates and hotfixes for services running on a Managed Platforms
- Automated system tracking of change requests and performing the patch management
- Providing status reports
- Implementing specific OS patching on MSA enabled environments

Change Management activities through risk guidance, testing procedures, tracking metrics throughout progress, roll-back processes, and post-deployment validation. Such changes are performed on behalf of the Customer and are available for auditing purposes. Customers are responsible for requesting the implementation of patch releases.

Maintenance Windows: All times listed under Schedule Maintenance Windows are local times and subject to change.

### Access Management

Lumen manages user policies, administration and password management enforcement of Managed Platforms configured within Cloud Application Manager.

### Security

Lumen offers access to industry-recognized anti-virus protection intended to secure the OS, taking into account the guidelines of the Managed Platform providers, regular virus, and malware signature updates, and offers OS-level hardening recommendations to mitigate risk on the Managed Platform environments.

Implementation of other recommended or client-required hardening steps is accomplished via the normal support ticketing process with Managed Services Anywhere.

### Licensing

Lumen will provide support for the following license types for the customer environments that are designated for Managed Services Anywhere:

- Customer-provided licenses used and modelled within Cloud Application Manager.
- Licenses provided by the native Managed Platform providers.
- Lumen provided licenses, where applicable.

### Watcher Monitoring and Alerting

The Lumen developed and proprietary monitoring service (Watcher), automatically integrated directly with AWS, and Azure, and Google monitoring technologies, enables host, service, and application monitoring of Customer's AWS, or Azure, or Google cloud environments. The Watcher utilizes an intelligent agent deployed to all managed VMs or physical servers. Monitoring policies are centrally configured and maintained by Lumen certified cloud engineers. When Watcher is deployed on physical servers, enables hardware and OS monitoring of Customer's private environment.

Lumen's Watcher uses both agent-based and cloud service provider metrics (for physical servers only an agent is used) to generate alerts on the performance of the applicable record or log flagged for monitoring.

Metrics are the result of standard checks that are performed and reported back to the customer and Lumen's support organization.

- Comprehensive monitoring policy is applied to all managed instances (e.g. VMs, database instances, storage instances, etc.).
- Configurable monitoring policies for defining alerts and trigger-based notifications via service request.
- Change Management integration for automated suppression of alerts during maintenance activities.
- Watcher dashboard to view policies and alerts on all managed devices, applications, and services.
- Graphing of performance metrics for managed workloads, applications and services enables historical trending and analysis.
- Graph overlays to compose and compare disparate metrics sets in a single view.
- Historical retention of the performance metric data is available on a rolling 28 calendar days basis.

## Managed Platforms

Managed Services Anywhere is currently available for the following managed platforms, which may be modified or changed from time to time. Managed Platforms means those platforms listed below for which Managed Services Anywhere is available.

- Microsoft Azure (Azure)
- Azure VMware Solutions

## Managed Technologies

The technologies listed below are accurate as of the version date of this Service Guide and are subject to change without notice based on vendor modifications to their technologies and/or offerings. Updates to this list of technologies will be posted as the technologies change.

### Operating System, Application, and Database Technologies

The following operating system, application, and database technologies are included in all the Managed Technology environments below. Supplemental or vendor-specific technologies for a particular environment are listed with that environment.

Apache IIS Tomcat	CentOS Red Hat Enterprise Linux Ubuntu Linux	Microsoft Windows Server Microsoft SQL Server MySQL
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## 2. Microsoft Azure

<b>Managed Technologies</b>	Virtual Machines Load Balancer Security Groups Network Interfaces Blob Storage Azure SQL Active Directory (Azure AD)	Scale Sets VPN Gateway ExpressRoute IP Addresses File Storage Disk Storage	Virtual Network Application Gateway Local Network Gateway Archive Storage Queue Storage SQL Server Identity and Access Management
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## 9. Azure VMWare Solutions (AVS)

<b>Managed Technologies</b>	All Operating System, Application, and Database technologies listed above.
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## Appendix A – Definitions

**Break/Fix:** Break/fix refers to the fee-for-service method of providing information technology repairs to businesses, in which a customer calls up a service provider to do an upgrade of a computer program, software product, computer, or a repair of something computer-related like a printer or drive array that is broken, the IT provider offers a solution or repair.

**Brownfield:** Migrating a customer's existing 3rd party cloud provider account to Lumen for consolidated billing and support (and designating Platform Advisory Support or Managed Services Anywhere) is known as a "Brownfield" account.

**Buy-Your-Own-Cloud or BYOC:** Buy an AWS or Azure account directly from the provider or another 3rd party (not Lumen) to be used with Platform Advisory Support and Managed Services Anywhere is known as "Buy-Your-Own-Cloud" or "BYOC".

**Compatible Cloud Providers:** A current list of Compatible Cloud Providers supporting Application Lifecycle Management is available in this Knowledge Base article.

**Cumulative Update:** A grouping of Hotfixes or quick fix engineering updates that have not been fully regression tested by Microsoft but are designed to resolve specific issues with Microsoft SQL Server.

**Domain Name System (DNS) Proxy** is a network system of servers that translates numeric IP addresses into readable, hierarchical Internet addresses, and vice versa.

**Greenfield:** The creation of new third party cloud provider account via Lumen for consolidated billing is known as a "Greenfield" account.

**Hardened OS:** Hardened OS means that all non-essential services and testing patched bundled in a standard operating system are disabled and functionality has been confirmed.

**Hotfix:** A hotfix or quick fix engineering update is a single cumulative package that includes information that is used to address a problem in a software product.

**Hypertext Transfer Protocol (HTTP) Proxy:** Provides port access to the Internet.

**Major Release:** Major Releases are vehicles for delivering major and minor feature development and enhancements to existing features. They incorporate all applicable error corrections made in prior Major Releases, Minor Releases, and Patch Releases. Software Provider typically has one Major Release per year.

**Managed Providers:** In support of Managed Services Anywhere, Managed Providers are currently Lumen Cloud, Lumen Private Cloud on VMware Cloud Foundation, Microsoft Azure, Amazon Web Services, and Physical Servers.

**Minor Release:** Minor Releases are vehicles for delivering minor feature developments, enhancements to existing features, and defect corrections. They incorporate all applicable error corrections made in prior Minor Releases, and Patch Releases.

**Network Time Protocol (NTP) Service:** Synchronize all server times to a common system time.

**Patch Release:** Patch Releases are vehicles for delivering security fixes, feature developments, enhancements to existing features, and defect corrections. They incorporate all applicable error corrections made in prior Patch Releases.

**Physical Servers:** Bare metal servers located in a customer premise, colocation environment, or a Lumen managed hosting facility.

**Custom Patch Requirements:** Customer selection of specific patches versus accepting all recommended patches, custom reporting to meet regulatory requirements versus standard reporting, variable patch schedule versus defined Maintenance Windows (see Definitions) and support for maintaining multiple patch levels versus having all patches applied (i.e. patches applied differ based on Production or Non-Production Environment).

**Systems:** The computer equipment and software that is approved by Lumen and utilized by the Customer in connection with the provision of Service by Lumen.

# Back up and Restore

Not applicable.

# Onboarding and offboarding support

There are two options available to all customers for onboarding and offboarding support:

- MSA Alerting Service
- MSA Managed Service

## MSA Alerting Service

MSA Alerting Service provides access to a Technical Account Manager who can provide:

- Escalation, best practice, and recommendations for additional hands-on services
- Advisory-only level of guidance with best effort
- Advice on best practice and Optimization

## MSA Managed Service

Managed Services include all Alerting activities, as well as:

- Hands-on activities for all fully managed technologies
- Deploying workloads and applications
- Support provided 24/7

All additional activities relating to onboarding and offboarding (including data migration) would be subject to a separate Statement of Work carried out by our Professional Services team.



# Implementation plan

Once the Managed Service Anywhere service is activated for the customer, a TAM is assigned to the account.

The TAM role provides activities around heightened operational governance of IT environments managed by Lumen. TAMs leverage their expertise as an operations and IT technology specialist to provide oversight and governance for operational services. Incident response, change management, problem management, service transition assistance for shorter delivery cycles, and creating efficiencies that assist in aligning with the Client's operations are considered fundamentals for the Technical Account Manager role. A TAM may internally coordinate communications/activities among or across Lumen internal cross-functional teams or business units as necessary.

## Common Available Activities:

- Service availability:
  - Provide reports on standard SLA/SLO adherence. This activity does not change the requirement of Client to notify Lumen of outages in order to be entitled to SLA credits
  - Oversee any Client standard SLA/SLO credit requests
  - Recommend operational improvements
  - Manage implementation of operational support improvements

# Pricing overview

Cloud Application Manager service fees are based on usage during a month with no base minimum Cloud Application Manager support fee.

Cloud Application Manager subscription pricing may vary by region and the appropriate regional pricing applies to Cloud Application Manager subscriptions based on the region from which the customer contracted for Services. The regional price plan will apply to Customer's Cloud Application Manager services used globally, where available.

Service fees are based on actual usage within each individual Cloud Application Manager Provider Account (as defined in the Service Guide) during the billing month. Applicable service fees for each Provider Account are determined by the provider account type (e.g., Lumen provided clouds, third party public clouds resold by Lumen Bring Your Own Cloud (BYOC)) and the level of service (e.g., Alerting, Managed) set for each Workload Tier (i.e., Operating System, Non-Cloud-Native Database, Non-Cloud-Native Web Servers) within the Provider Account.

A **Lumen-led cloud support fee**, calculated as a percentage of uplift on total cloud spend on third party clouds resold by Lumen for the month, is applied to all Provider Accounts that are public clouds resold through Lumen. A Cloud Optimization and Analytics (COA) service fee calculated as a percentage of uplift on total monthly cloud spend applies to any applicable Provider Account that had this optional service turned on for any Level of Service Fees.

1. Operating System Workload Tier. A monthly **alerting or management fee** on a workload tier applies per supported **operating system** instance that existed for any time during the month within each Provider Account that had one of those levels of service set for the Operating System Workload Tier for any time during the month. The Operating System Workload Tier also includes Apache HTTP and IIS web services. It will also include Managed Services Anywhere ("MSA") fully managed cloud native technologies until the cloud native Workload Tier option becomes on Provider Accounts available in the future.
2. Database Workload Tier. A monthly **alerting or management fee** applies per supported **non-cloud-native database** instance that existed for any time during the month within a Provider Account that had one of those levels of service set for the Database Workload Tier for any time during the month. The level of service set for the Database Workload Tier cannot exceed the level of service set for the underlying Operating System workload tier.
3. Web Service Workload tier. A monthly **alerting or management fee** applies per supported **non-cloud-native web server** instance that existed for any time during the month within a Provider Account that had one of those levels of service set for the Web Server Workload Tier for any time during the month. The level of service set for the Web Server Workload Tier cannot exceed the level of service set for the underlying Operating System Workload Tier.

4. If different levels of service were set at different times during a month for a particular Workload Tier, the higher service rate will apply for the entire month.
5. A customer self-service **application lifecycle management** (ALM) rate per hour of run-time during the billing month will apply to any customer workload instances deployed, using the Cloud Application Manager ALM automation tools, in any Provider Account without Lumen-led Cloud Support or a level of service applied to applicable Workload Tiers at any time during the month.
6. Predefined discounts may be applicable when level of service is set (and maintained) to managed and the customer commits to a minimum monthly MSA spend level over a 1, 2, or 3-year service term.

Service	Pricing
CAM Self Service ALM on for Lumen platform and BYOC provider accounts	£0.07 per instance / hour
Lumen-led Cloud Support Services for CAM Cloud Resale Accounts (includes ALM)	5% uplift
Optional CAM Cloud Optimization & Analytics for AWS and Azure providers	4.6% uplift
Alerting Only of Operating Systems(includes Apache and IIS Webservers)	£29 / per instance / month
Management of Operating Systems(includes Apache and IIS Webservers)*	£108 per instance / month
Alerting only of Non-Cloud Native Databases	£29 per instance / month
Optional Management of Non-Cloud Native Databases*	£518 per instance / month
Alerting only of Non-Cloud Native Web Services(Apache Tomcat)	£29 per instance / month
Optional Management of Non-Cloud Native Web Services(Apache Tomcat)*	£470 per instance / month
MSA Term Commit Discount	5% - 20% based on commit

# Service constraints

**Scheduled Maintenance.** Customer acknowledges that the Services may be subject to routine maintenance or repair and agrees to cooperate in a timely manner and provide reasonable access and assistance as necessary to allow such maintenance or repair. Scheduled or emergency maintenance terms are identified in the applicable SLA, SG, portal or Website

**"Emergency Maintenance"** refers to any corrective action intended to remedy conditions likely to cause severe Service degradation, as designated by Lumen in its sole discretion. Emergency Maintenance may include but is not limited to actions intended to address hardware or software failures or viruses/worms. Lumen will exercise reasonable efforts to inform Customer in advance before interrupting the Service for Emergency Maintenance, but such notice is not guaranteed, and failure thereof does not constitute failure

## Level of customisation allowed

### Optional Add-on Services

Optional add-on services are available that provide a pre-packaged set of activities for fixed one-time or fixed monthly recurring fees. All activities for the optional add-on Services are provided from remote resources. The list of services in each pre-packaged service are predefined, finite and are not customizable by Client. The activities identified below are advisory only. Lumen may recommend but Client is not required to purchase additional services under separate terms and conditions as a result of findings identified. All Lumen activities are subject to Client complying with all Customer Responsibilities as such term is defined in the Advanced Managed Services Supplemental Terms.

Lumen may, in its reasonable discretion and based on a number of factors, including size of or complexity of the Client's IT environment, determine that any request of optional add-on services is out of scope of this Service Description. Instead, Lumen will request that Client contact its Lumen sales representative for consideration of delivery through Lumen professional services under a separate service agreement.

The available add-on services are described below. For full description of the services please visit <https://www.ctl.io/advanced-managed-services/service-description/>

### Managed Optimization Service

Managed Optimization Service employs Lumen's expertise, data analytics tools and resources to examine a Client's Qualified Optimizable Services spend and optimize cost savings via Reserve Instance (RI) management. In exchange for allowing Lumen to exclusively order Reserve Instances on Client's behalf, Clients can earn a monthly Optimization Adjustment on Qualified Optimization Services spend.

Lumen will regularly meet with Client on a mutually agreed schedule to review

Client's forecast for Qualified Optimizable Services. Lumen's proprietary Cloud Optimization and Analytics tools, part of the Customer's Cloud Application Manager Service, are utilized in making RI buying and selling decisions on behalf of the Client.

## Network Penetration Test

This service scans and performs a penetration tests on up to 220 internal and 20 external IPs with results analyzed and prioritized findings provided to Client in a report. The service is available as a one-time event for a single fixed fee or on a recurring basis with four events per year for a fixed monthly service fee.

## Application Penetration Test – One Time

This service conducts a one-time web application penetration test to examine up to two web applications with up to ten internal pages per application identifying vulnerabilities with results analyzed and prioritized findings provided to Client in a report.

## Palo Alto Firewall Advisory – One Time

This one-time advisory service analyzes up to the past 12 months of log monitoring history and utilization from a single resilient pair of Lumen managed Palo Alto firewall devices to advise on any tuning recommendations of policies and rules for base firewall, site-to-site VPNs, anti-Virus, anti-spyware, vulnerability protection, file blocking, data filtering, SSL, and URL filtering.

Subscribe to this packaged service multiple times to cover additional Lumen Managed Palo Alto firewalls.

## Intrusion Prevention Service Advisory – One Time

This one-time advisory service analyzes up to the past 12 months of log history from a single resilient pair of Lumen managed Cisco or Palo Alto firewall devices with intrusion prevention service (IPS) activated to advise on policy tuning recommendations.

Subscribe to this packaged service multiple times to cover additional firewalls.

## Web Application Firewall (WAF) Advisory – One Time

This one-time advisory service analyzes up to the past 12 months of log monitoring history and utilization from a single resilient pair of Lumen managed Imperva SecureSphere WAF devices to advise on any tuning recommendations of policies and rules.

Subscribe to this packaged service multiple times to cover additional Lumen Managed WAF devices.

## Data Loss Prevention (DLP) Advisory – One Time

This one-time advisory service analyzes up to the past 6 months of DLP event history and utilization performance from a single resilient pair of Lumen custom managed DLP devices in the context of Client's IT environment, policies, and applicable compliance areas of data at rest, data in-use, data in-motion to advise on any tuning recommendations for improving quality of alerting.

Subscribe to this packaged service multiple times to cover additional Lumen custom managed DLP devices.

### **Content Integrity Advisory – One Time**

This one-time advisory service analyzes up to the past 30 days of event history for the Lumen Content Integrity Management Service (CIMS) using Tripwire from up to 50 agents running on Lumen managed servers or virtual machines to advise on policy tuning recommendations.

### **Anti-Virus Advisory – One Time**

This one-time advisory service analyzes up to the past 6 months of event history for Lumen managed anti-virus running on up to 50 Lumen managed servers or virtual machines to advise on alert handling and remediation recommendations.

### **Distributed Denial of Service (DDoS) Advisory – One Time**

This one-time advisory service analyzes up to the past 6 months of incident history from up to ten Internet circuits, on-net or off-net, protected by a Lumen DDoS Mitigation service to advise on tuning the DDoS configuration for optimal performance and minimal business impact.

### **Log Management Advisory – One Time**

This one-time advisory service analyzes up to the past 12 months of log alerts and log flow utilization trending from up to two instances of the Lumen Log Management Service collecting logs from up to 50 sources to advise on any discovered security or performance deficiencies with respect to PCI, HIPAA and SOX compliance.

### **Single Sign-On (SSO) Oversight**

This one-time advisory service analyzes up to the past 6 months of exception logs from a pair of redundant Lumen managed SiteMinder SSO application servers communicating with up to 100 SSO agents to advise on optimization of the environment.

### **Security Log Monitoring Tuning – Recurring**

This monthly recurring service delivers the scope of services outlined below in support of Lumen Security Log Monitoring 2.0 (SLM) products which are purchased separately.

# Service levels

## Performance, availability and support hours

Lumen will deliver 99.99% uptime availability on Cloud Application Manager. A Cloud Application Manager failure occurs when a Customer cannot access the Cloud Application Manager platform because of problems with hardware and/or software in Lumen's control. Access issues caused by problems connecting to the service, including without limitation problems on the Internet or access and configurations managed by a non-Lumen provider, do not constitute failures and as such are not covered by this SLA. Customer will receive a service credit for the period of time commencing when a ticket is filed requesting assistance in accessing the platform and the access issue is verified by Lumen until the services are reinstated.

Cloud Service Provider outages are governed solely by the terms and conditions between Customer and the non-Lumen cloud provider.

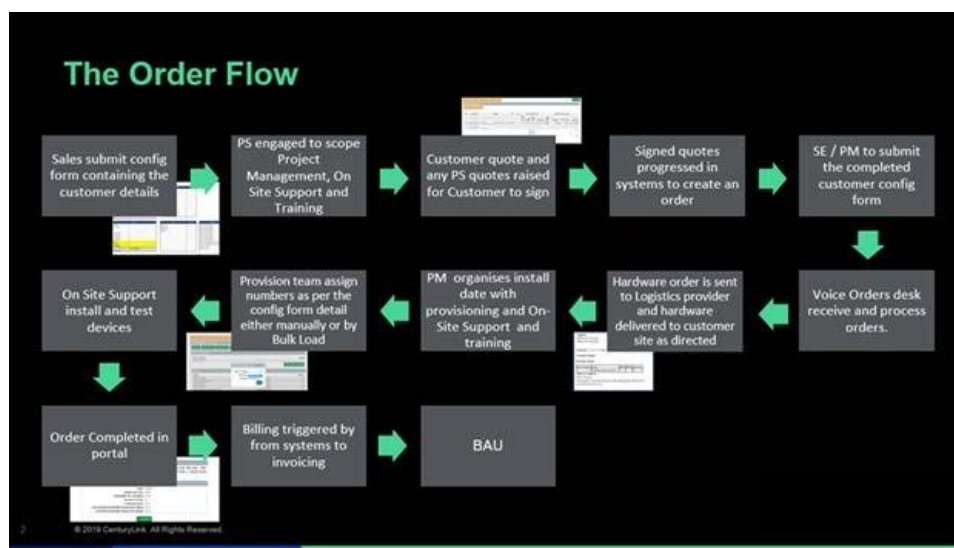
## Compensation

Any specific dependencies or responsibilities relevant to the service above will be covered by the standard terms and conditions or if different specified in any Statement of Work provided to the Buyer. Any service or project specific dependencies or responsibilities will be described within a formal proposal or contract.

Please see the Terms and Conditions provided with this service.

## Ordering and invoicing process

Customers will engage with a Lumen Sales representative who, once qualified the requirement will engage with the necessary technical support teams to fully scope the requirement. The following diagram provides a high-level view of the order process through to a typical invoice being raised.





# Contractual Obligations

**Please note: This Agreement is not currently available for use in Latin America.**

This Agreement for Lumen Cloud Services ("Agreement") with Lumen Communications, LLC and its affiliates ("Lumen") contains the terms and conditions that govern your access to and use of the Services (as defined below). Services may be provided by a local affiliate if you elect to purchase Services from outside of the U.S. and all such affiliates are collectively referred to as "Lumen". The Effective Date is the date/time you click an "I accept" button or check box presented with these terms or, if earlier, when you use any of the Services. As used herein, "you", "your" or "Customer" shall refer to the entity identified on the Contact Information section of the Website. In consideration of the mutual promises contained in this Agreement, Lumen and Customer hereby agree as follows:

## 6. The Services.

1.1 The services covered by this Agreement are the Lumen Cloud services provided by Lumen to Customer from time to time (collectively, "Services") and included on [www.ctl.io](http://www.ctl.io) (the "Website") and the Client Management section of the Website (the "Control portal").

1.2 **Control portal.** Customer may access the Services via an API or the Control portal. Lumen may modify the Control portal or the APIs or may transition to new APIs at any time. Customer's use of the Control portal and/or APIs are governed by this Agreement.

7. **Term.** The term of any individual Cloud Service will commence on the Billing Commencement Date and will remain in effect for so long as Customer continues to access and use the Service (i.e. month to month).

## 8. Rates; Billing; Payment.

8.1 **Rates/Charges.** Lumen Cloud is a pay-for-use service and Customer will pay all applicable rates and fees associated with both the individual Service and the quantity of Services ordered by Customer via an API or the Control portal. Rates and fees associated with the Services are posted on the Website. New Services or new Service features may be added at any time, however, fees for new Services or new Service features will not be effective until purchased by Customer. Lumen may materially increase fees for any existing individual

Cloud Service or remove any material service offering by providing not less than 60 days' notice prior to the effective date of such increase and/or removal of material services by posting on the Website.

3.2 **Billing Commencement Date.** The Billing Commencement Date or BCD for individual usage-based Cloud Services is the date services are activated by Lumen and no acceptance period will apply.

**3.3 Payment of Invoices and Disputes.** Invoices are delivered or made available monthly and due 30 days after the invoice date. Fixed charges are billed in advance and usage-based charges are billed in arrears based on Services purchased/used and in accordance with posted rates. Customer's payments to Lumen must be made via an ACH transfer or any Lumen approved payment portal (e.g., Lumen Control Center) in the currency stated on the invoice. Lumen may charge administrative fees where Customer's payment and invoice preferences deviate from Lumen's standard practices. Past due amounts bear interest at 1.5% per month or the highest rate allowed by law (whichever is less). Lumen may charge Customer reasonable attorneys' fees and any third-party collection costs Lumen incurs in collecting such amounts. Customer is responsible for all charges regarding the Service, even if incurred as the result of unauthorized use. If Customer reasonably disputes an invoice, Customer must pay the undisputed amount and submit written notice of the disputed amount (with details of the nature of the dispute and the Services and invoice(s) disputed). Disputes must be submitted in writing within 90 days from the date of the invoice. If Lumen determines in good faith that a disputed charge was billed correctly, Customer must pay such amounts within 10 days after Lumen provides notice of such determination. Customer may not offset disputed amounts from one invoice against payments due on the same or another account.

**8.4 Taxes and Fees.** Excluding taxes based on Lumen's net income, Customer is responsible for all taxes and fees arising in any jurisdiction imposed on or incident to the provision, sale or use of Service. This includes value added, consumption, sales, use, gross receipts, withholding, excise, access, bypass, ad valorem, franchise or other taxes, fees, duties or surcharges (e.g., regulatory surcharges), whether imposed on Lumen or a Lumen affiliate (collectively "Taxes and Fees"). Some Taxes and Fees, and costs of administering the same, are recovered through imposition of a percentage surcharge(s) on the charges for Service. If Customer is required by law to make any deduction or withholding of withholding Taxes from any payment due hereunder to Lumen, then, notwithstanding anything to the contrary in this Agreement, the gross amount payable by Customer will be increased so that, after any such deduction or withholding for such withholding Taxes, the net amount received by Lumen will not be less than Lumen would have received had no such deduction or withholding been required. Charges for Service are exclusive of Taxes and Fees. Customer may present Lumen with an exemption certificate eliminating Lumen's liability to pay certain Taxes and Fees. The exemption will apply prospectively.

**8.5 Credit Approval and Deposits.** Customer will provide Lumen with credit information as requested. Lumen may require Customer to make a deposit as a condition of Lumen's continuation of: (a) usage-based Services; or (b) non-usage based Service where Customer fails to timely pay Lumen hereunder or Lumen reasonably determines that Customer has had an adverse change in financial condition. Deposits will not exceed two months' estimated charges for Service and are due upon Lumen's written request.

When Service is discontinued, the deposit will be credited to Customer's account and the balance refunded.

- 8.6 **Regulatory and Legal Changes.** Notwithstanding any minimum notice required for rate increases set forth in Section 3.1 Rates/Charges, above, if changes in applicable law, regulation, rule or order materially affect delivery of Service Lumen will pass any increased costs on to Customer.
- 8.7 Charges for Services may be subject to (a) a property tax surcharge and (b) a cost recovery fee per month to reimburse Lumen for various governmental taxes and surcharges. Such charges are subject to change by Lumen and will be applied regardless of whether Customer has delivered a valid tax exemption certificate. For additional details on taxes and surcharges that are assessed, visit <https://www.Lumen.com/taxes>.
- 8.8 Customer agrees not to chargeback any credit card payments for services rendered. A chargeback of payment for services rendered will result in an additional charge of US \$150 and will be subject to collection by an authorized collection agency. Customer is responsible for any fees and costs (including, but not limited to, reasonable attorneys' fees, court costs and collection agency fees) incurred by Lumen in enforcing collection.

## 9. Obligations.

- 9.1 **Lumen Compliance and Security.** Lumen will comply with all laws and regulations applicable to Lumen's provision of the Service, and Customer will comply with all laws and regulations applicable to Customer's use of the Service. Lumen has adopted and implemented, and will maintain, a corporate information security program designed to protect Customer data from loss, misuse and unauthorized access or disclosure. Such program includes formal information security policies and procedures. The Lumen information security program is subject to reasonable changes by Lumen from time to time. Customer will ensure that all Customer Data stored, transmitted or processed via the Service complies with applicable law and reasonable information security practices, including those involving encryption. In addition to Lumen's obligations in the Agreement, Lumen, as of the date of this Agreement, has completed an AICPA sanctioned Type II audit report (i.e., SSAE18/ISAE3402 SOC 1 or AT-101 SOC 2) in certain data centres and intends to continue to conduct such audits pursuant to a currently sanctioned or successor standard. Customer will be entitled to receive a copy of the then-available report, which is Lumen Confidential Information. Customer may make such report available to its End Users subject to confidentiality terms provided by Lumen.
- 9.2 **Customer Acknowledgement:** Lumen and its affiliates or subcontractors may use and transfer to the United States, or other countries, Service information or operational data (including business contact information) for the limited purposes of: (i) providing and managing the Services; (ii) fulfilling its obligations under this Agreement; and (iii) complying with applicable law.
- 9.3 **Customer Security Obligations.** Customer is solely responsible for properly configuring and using the Cloud Service and taking its own steps to

maintain appropriate security (including maintaining reasonable information security practices) for the protection and backup of Customer Data, which may include the use of encryption technology to protect Customer Data from unauthorized access. Lumen may assist with initial configuration and monitoring subject to the purchase of certain Managed Services. Given that Customer can self-provision and self-configure the Services and the Customer environment in ways that may reduce its security, notwithstanding anything else to the contrary in this Agreement, Customer acknowledges that it and not Lumen is responsible for whether the Services and Customer environment are configured in a secure manner and no security requirements or obligations of Lumen related to any other Lumen Service, including FedRAMP, NIST, FISMA, or other security platforms shall apply. In addition, Customer is solely responsible for compliance related to the manner in which the Cloud Service is used or accessed by Customer or its authorized users including the transfer and processing of personal data.

- 9.4 **Acceptable Use.** Customer must comply with the Lumen Acceptable Use Policy ("AUP"), for Services purchased under this Agreement and acknowledge the Lumen Privacy Policy. Lumen may reasonably modify these policies to ensure compliance with applicable laws and regulations and to protect Lumen's network and customers. Lumen reserves the right to monitor (and suspend if applicable) processes on the virtual infrastructure to ensure Customer compliance with this Agreement, including the AUP. Such monitoring does not include the monitoring or viewing of any Customer Data. If Lumen suspends Services for violation of this section, including the AUP, Customer remains liable for all fees, charges and any other obligations incurred and accruing. No SLAs are payable for any period of suspension.
- 9.5 **Authorization.** Customer agrees that: (a) it will provide accurate and complete information as requested by Lumen in connection with its registration for the Services; and (b) any registrants, users, or others placing orders for Service on its behalf have full legal capacity to do so and are duly authorized to do so and to legally bind Customer to the Agreement and all transactions conducted under Customer's account. Customer may only use the Cloud Services to store, retrieve, query, serve, and execute Customer Data that is owned, licensed or lawfully obtained by Customer.

## 10. Termination; Default.

- 10.1 **Termination; Effect of Termination.** Customer may terminate any individual Cloud Service at any time for any reason or no reason without liability for early termination charges. Customer must follow Lumen's termination or nonrenewal procedures made available in the Control portal in conjunction with any other applicable Service Notices provision in this Agreement. Failure to provide disconnect, termination and non-renewal notices in accordance with this Section may result in continued charges, and Lumen will not credit charges for such noncompliance.

Notwithstanding any notice of termination or discontinuance of use of the Cloud Services by Customer, Lumen will not deem any notice of termination effective and all applicable monthly recurring or usage based fees will continue to apply until Customer removes and/or deletes any and all Cloud content and Customer Data. However, if Customer Data remains not deleted or removed greater than 30 days after Customer's notice that it intends to terminate the Service or if Customer has dialled down usage to \$0.00 and zero usage continues for greater than 30 days, Lumen reserves the right to delete any and all Cloud content, including Customer Data, without further obligation or liability to Customer.

**10.2 Default.** Lumen may suspend and/or terminate the affected Service upon five (5) days' notice in the event of any uncured payment default, including a failure to maintain up to date credit card information that results in rejected charges. If either party fails to observe or perform any other material term of this Agreement and such failure continues for 30 days after the other party's written notice, then the non-defaulting party may: (i) terminate applicable Services or this Agreement; and/or (ii) subject to all applicable damages limitations and the SLAs, pursue any remedies it may have at law or in equity.

**11. Confidentiality.** Neither party will: (a) disclose any of the terms of the Agreement; or (b) disclose or use (except as expressly permitted by, or required to achieve the purposes of, the Agreement) the Confidential Information received from the other party. A party may disclose Confidential Information if required to do so by a governmental agency, by operation of law, or if necessary, in any proceeding to establish rights or obligations under the Agreement. Each party will limit disclosure and access to confidential information to those of its employees, contractors, attorneys or other representatives who reasonably require such access to accomplish the Agreement's purposes and who are subject to confidentiality obligations at least as restrictive as those contained herein. "Confidential Information" means any commercial or operational information disclosed by one party to the other in connection with the Agreement and does not include any information that: (a) is in the public domain without a breach of confidentiality; (b) is obtained from a third party without violation of any obligation of confidentiality; or (c) is independently developed by a party without reference to the Confidential Information of the other party.

**12. Scheduled Maintenance.** Customer acknowledges that the Services may be subject to routine maintenance or repair and agrees to cooperate in a timely manner and provide reasonable access and assistance as necessary to allow such maintenance or repair. Scheduled or emergency maintenance terms are identified in the applicable SLA, SG, portal or Website.

### **13. Liabilities; Disclaimer.**

**13.1 Damages Limitations.** NEITHER PARTY WILL BE LIABLE FOR ANY DAMAGES FOR LOST PROFITS, LOST REVENUES, LOSS OF GOODWILL, LOSS OF ANTICIPATED SAVINGS, LOSS OF DATA, COST OF PURCHASING REPLACEMENT SERVICES, OR ANY INDIRECT, INCIDENTAL, SPECIAL, CONSEQUENTIAL, EXEMPLARY OR PUNITIVE

## DAMAGES ARISING OUT OF THE PERFORMANCE OR FAILURE TO PERFORM UNDER THIS AGREEMENT.

- 13.2 **Direct Damages.** Except for the payment obligations of Customer, the total aggregate liability of each party arising from or related to this Agreement shall not exceed in the aggregate the total MRCs, NRCs, and usage charges paid or payable to Lumen for the affected Services in the twelve months immediately preceding the first event giving rise to the cause of action ("Damage Cap").

**Representations.** Customer represents and warrants that: (i) the information Customer provides in connection with Customer's registration for the Services is accurate and complete; (ii) if Customer is registering for the Services as an individual, that Customer is at least 18 years of age and has the legal capacity to enter into this Agreement; and (iii) if Customer is registering for the Services as an entity or organization, (a) Customer is duly authorized to do business in the country or countries where Customer operates and is an authorized representative of Customer's entity, and (b) Customer's employees, officers, representatives and other agents accessing the Services are duly authorized to access the Services and to legally bind Customer to this Agreement and all transactions conducted under Customer's account.

- 13.3 **Disclaimer of Warranties.** THE SERVICES AND ANY RELATED HARDWARE, SOFTWARE AND OTHER MATERIALS PROVIDED BY LUMEN IN CONNECTION WITH THE SERVICES ARE PROVIDED WITHOUT ANY WARRANTIES OF ANY KIND, WHETHER STATUTORY, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, WARRANTIES OF TITLE, NON-INFRINGEMENT, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, ACCURACY, COMPLETENESS, COMPATIBILITY OF SOFTWARE OR EQUIPMENT, OR ANY RESULTS TO BE ACHIEVED THEREFROM. LUMEN MAKES NO WARRANTIES OR REPRESENTATIONS THAT ANY SERVICE WILL BE FREE FROM LOSS OR LIABILITY ARISING OUT OF HACKING OR SIMILAR MALICIOUS ACTIVITY, OR ANY ACT OR OMISSION OF THE CUSTOMER OR THAT ANY CONTENT WILL BE SECURE OR NOT OTHERWISE LOST OR ALTERED. CUSTOMER ACKNOWLEDGES THAT ANY MATERIAL DOWNLOADED OR OTHERWISE OBTAINED THROUGH THE USE OF THE SERVICE OFFERINGS IS DONE AT CUSTOMER'S OWN DISCRETION AND RISK AND CUSTOMER WILL BE SOLELY RESPONSIBLE FOR ANY RESULTING DAMAGE TO CUSTOMER'S PROPERTY OR LOSS OF DATA. THE PREVIOUS DISCLAIMERS WILL NOT LIMIT CUSTOMER'S ABILITY TO SEEK ANY APPLICABLE SLA REMEDIES.

## 14. Notices.

- 9.1 Customer acknowledges and agrees that Lumen may contact Customer via e-mail at the e-mail address provided to Lumen when Customer ordered the Service, and such email may include instructions for use of a private website for posting of such notices, for any reason relating to the Service, including for purposes of providing Customer any notices required under this Agreement. Customer agrees to provide Lumen with any change to its email address.



14.2 **Service Notice.** Customer shall provide routine operational notices, requests for credits and/or billing inquiries to its Lumen sales representative.

9.3 **Legal Notices.** Notices will be in writing and deemed received if delivered personally, sent via facsimile, pre-paid overnight courier, electronic mail (if an email address is provided below) or sent by U.S. Postal Service or First Class International Post. All legal notices will be addressed to Lumen at: 931 14th Str., #900, Denver, CO 80202; Fax: 888-778-0054; Attn.: Notice Coordinator; and to any electronic or physical address of Customer as provided in the Agreement or in its absence, to Customer's address identified on the Order or as reflected in Lumen's records, Attn. General Counsel.

## 15. Intellectual Property.

15.1 **Intellectual Property.** Lumen's intellectual property and proprietary rights include any skills, know-how, modifications or other enhancements developed or acquired in the course of configuring, providing, or managing the Service. Each party agrees that it will not, directly or indirectly, reverse engineer, decompile, reproduce or otherwise attempt to derive source code, trade secrets, or other intellectual property from any information, material, or technology of the other party or its licensors. Nothing in this Agreement or the performance thereof conveys, or otherwise transfers any right, title, or interest in any intellectual property or other proprietary rights held by either party or its licensors.

15.2 **Lumen Hardware/ Software.** Any hardware and/or software (including related documentation) that may be provided by Lumen or its third party licensors may be used solely as part of the Services. Customer: (a) will not assert any ownership interest whatsoever in the Lumen hardware or software; (b) will keep the hardware and software free and clear from all liens, claims and encumbrances; (c) shall use all hardware and software solely in accordance with the Agreement; and (d) comply with any applicable third party licensing terms or conditions and use of the Service, including the hardware and software shall be deemed Customer's acceptance of such terms. Unless Managed Operating System or Managed Application services are purchased, Customer is responsible for selecting, installing and maintaining any software used in connection with the Service including any related applications, systems, or software. Customer will not nor will Customer allow any third party to (i) copy, modify, adapt, translate or otherwise create derivative works of the Services; (ii) reverse engineer, decompile, disassemble or otherwise attempt to discover the source code of the Services; (iii) utilize black listed software; (iv) knowingly use, post, transmit or introduce any device, software or routine which interferes or attempts to interfere with the operation of the Services;

15.3 Lumen will not disclose, modify, or access Customer Data, except (a) with Customer's authorization to do so in connection with Customer's use of the Services, including requests for support; or (b) as necessary to provide the Services to Customer or to prevent or address service or technical

problems, or to comply with this Service Exhibit; or (c) at the request of a governmental or regulatory body, subpoenas or court order.

- 15.4 **Third Party Software.** If Customer elects to use Customer provided and/or licensed software in connection with the Cloud Services or make such software available to other users of Cloud Services, Customer is solely responsible for (a) selecting, licensing, installing and maintaining any such software, including any related applications and systems; and (b) ensuring adherence to current technical documentation, all applicable licensing terms, requirements, and/or restrictions and all applicable laws with respect to such software.

## 16. Service Levels; Credits.

- 11.1 Lumen's SLA constitutes Customer's sole and exclusive remedy for nonperformance, failure or deficiency of the Services for any reason, except that Lumen shall have no obligation to compensate Customer under any SLA while Customer is in default, including not being current in its payment obligations under this Agreement.

- 11.2 Service credits, if any, as provided in the SLA or any other credits Customer may be eligible to receive for Services purchased pursuant to a valid promotion will be issued to Customer's account and shall not be issued as cash back to the Customer nor shall the service credits be transferable to other account holders. Credits shall expire if Customer's account is terminated.

17. **Feedback.** In the event Customer elects, in connection with any of the Services, to communicate to Lumen suggestions for improvements to the Service ("Feedback"), Lumen shall own all right, title and interest in and to the same, even if Customer has designated the Feedback as confidential, and Lumen shall be entitled to use the Feedback without restriction. Customer hereby irrevocably assigns all right, title, and interest in and to the Feedback to Lumen and agrees to provide Lumen such assistance as it may require to document, perfect and maintain Lumen's rights to the Feedback.

18. **HIPAA.** To the extent the Services involve the ongoing storage of or routine access to PHI (as defined under the Health Insurance Portability and Accountability Act of 1996, as amended, "HIPAA"), or Lumen is otherwise acting as a Business Associate (pursuant to HIPAA), Lumen will agree to the terms in its thencurrent Business Associate Agreement upon Customer's request.

19. **SLA Attachment and Supplemental Terms.** Customer's use of Services hereunder is subject to acceptance by Customer of the additional terms applicable to certain services and software, the Service Guide, and the SLA Attachment applicable to the Service.



- 20. Force Majeure.** Neither party will be liable, nor will any credit allowance or other remedy be extended, for any failure of performance or equipment due to causes beyond such party's reasonable control ("force majeure event").
- 21. Assignment and Resale.** Neither party may assign its rights or obligations under this Agreement without the prior written consent of the other party, which will not be unreasonably withheld. However, either party may assign its rights and obligations under this Agreement without the consent of the other party: (1) to any subsidiary, parent, or affiliate that controls, is controlled by, or is under common control with that party; (2) pursuant to the sale or transfer of substantially all of the business or relevant assets of that party; or (3) pursuant to any financing, merger, or reorganization of that party. This Agreement will apply to any permitted transferees or assignees. Any assignee of Customer must have a financial standing and creditworthiness equal to or better than Customer's. Nothing in this Agreement confers upon any third party any right, benefit or remedy hereunder.
- 22. Affiliates.** Lumen may use a Lumen affiliate or a third party to provide Service to Customer, but Lumen will remain responsible to Customer for Service delivery and performance. Customer's affiliates may purchase Service under this Agreement, and Customer will be jointly and severally liable for all claims and liabilities related to Service ordered by any Customer affiliate.
- 23. Governing Law; Amendment.** This Agreement will be governed and construed in accordance with the laws of the State of New York, without regard to its choice of law rules. Each party will comply with all applicable laws, rules and regulations associated respectively with Lumen's delivery or Customer's use of the Service under the Agreement. This Agreement constitutes the entire and final agreement and understanding between the parties with respect to the Service and supersedes all prior agreements relating to the Service. Lumen is not subject to any obligations that are not explicitly identified in this Agreement. No failure by either party to enforce any right(s) hereunder will constitute a waiver of such right(s).

## 24. Definitions.

"API" means a Lumen provided Application Programming Interface.

"Billing Commencement Date" or "BCD" means the date on which Lumen begins billing for a Service, as further defined in the Billing Commencement Date Section above. The BCD shall apply in lieu of any other Customer Commit Date, Service Commencement Date, Connection Notice, or similar language in the Agreement.

“Customer Data” means any data, content or information of Customer or its end users that is stored, transmitted, or otherwise processed using the Lumen Services. Lumen’s obligations with respect to such Customer Data shall be exclusively governed by the Compliance and Security section and are further subject to all Limitation of Liability provisions of this Agreement.

“End User” means Customer’s members, end users or any other third parties who use or access the Services or access Lumen’s network or data centers via the Services.

“Managed Services” means certain usage based managed operating systems and/or managed applications, including web, middleware, database applications, that a Customer may elect to purchase via the Control portal.

“MRC” means monthly recurring charge.

“NRC” means non-recurring charge.

“Service Guide” or “SG” means the product-specific Service guide that includes technical specifications which Lumen may modify from time to time, effective upon posting. “SLA” means the service level agreement applicable to the Service which provides Customer’s sole and exclusive remedies for any nonperformance, Service deficiencies, outages, interruptions or failures of any kind. SLAs may be updated from time to time and are effective upon posting to the Website.

# After sales support

For any questions, guidance, coordination, issue status, or escalation needs, contact your designated [Technical Account Manager \(TAM\)](#). They are your guide to a great cloud managed service experience, and are available during standard business hours (8am – 6pm Local Time).

For technical support and operations activities, call the [Global Operations Support Center](#) or open a ticket via the Cloud Application Manager interface. Support Engineers are available 24x7x365 and will respond in accordance with the [severity level of your case](#).

## Contacting Support

Email us for technical support for a response of 4 hours or less, depending on severity of the issue. Or call your regional number directly for more immediate response during business hours. Links are also provided within the Cloud Application Manager portal to open a ticket with a response time of no more than 4 hours.

- |                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• <b>United States:</b></li> <li>• Local toll free: 1-888-638-6771</li> <li>• <a href="mailto:incident@Lumen.com">incident@Lumen.com</a></li> </ul>                                                         | <ul style="list-style-type: none"> <li>• <b>EMEA:</b></li> <li>• Local toll free: 00800 72884743</li> <li>• <a href="mailto:incident@Lumen.com">incident@Lumen.com</a></li> </ul>                                                                                    |
| <ul style="list-style-type: none"> <li>• <b>Canada:</b></li> <li>• Local toll free: 1-866-296-5335</li> <li>• <a href="mailto:incident@Lumen.com">incident@Lumen.com</a></li> </ul>                                                                | <ul style="list-style-type: none"> <li>• <b>Asia Pacific:</b></li> <li>• Local toll free: +65 6768 8099</li> <li>• <a href="mailto:incident@Lumen.com">incident@Lumen.com</a></li> </ul>                                                                             |
| <ul style="list-style-type: none"> <li>• <b>Latin America:</b></li> </ul>                                                                                                                                                                          |                                                                                                                                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>• <b>Argentina</b> <a href="mailto:docbares@Lumen.com">docbares@Lumen.com</a></li> <li>• Local toll free: 0800 800 5383</li> <li>• + 54 11 5170 5383</li> <li>• After language selection press 3</li> </ul> | <ul style="list-style-type: none"> <li>• <b>Brazil</b></li> <li>• <a href="mailto:operacao@Lumen.com">operacao@Lumen.com</a></li> <li>• Local toll free: 0800 887 3333</li> <li>• + 55 11 3957 2288</li> <li>• After language selection press 3</li> </ul>           |
| <ul style="list-style-type: none"> <li>• <b>Chile</b> <a href="mailto:docsantiago@Lumen.com">docsantiago@Lumen.com</a></li> <li>• Local toll free: 800 360 303</li> <li>• +56 2 2422 5856</li> <li>• After language selection press 3</li> </ul>   | <ul style="list-style-type: none"> <li>• <b>Colombia</b> <a href="mailto:datacentercolombia@Lumen.com">datacentercolombia@Lumen.com</a></li> <li>• Local toll free: 01800 011 7997</li> <li>• + 57 1 611 9013</li> <li>• After language selection press 3</li> </ul> |
| <ul style="list-style-type: none"> <li>• <b>Ecuador</b> <a href="mailto:docquito@Lumen.com">docquito@Lumen.com</a></li> <li>• Local toll free: 1800 400 408</li> <li>• +59 3 2400 5080</li> </ul>                                                  | <ul style="list-style-type: none"> <li>• <b>Perú</b> <a href="mailto:doclima@Lumen.com">doclima@Lumen.com</a></li> <li>• Local toll free: 0800 7 0662</li> <li>• + 51 1 705 5777</li> </ul>                                                                          |

**United States:** •

**EMEA:**

Local toll free: 1-888-638-6771

Local toll free: 00800 72884743

[incident@Lumen.com](mailto:incident@Lumen.com) • [incident@Lumen.com](mailto:incident@Lumen.com)

After language selection press 3

After language selection press 3

## Venezuela

[operadoresdc@Lumen.com](mailto:operadoresdc@Lumen.com)

Local toll free: 0800 285 8300

- +58 212 204 9301
- Select option 3

## Any technical requirements

Not applicable

# Business Continuity and Disaster Recovery Plans

Lumen is committed to ensuring business resiliency and survivability during an incident or business disruption.

Our Corporate Business Continuity Management program (“Program”) supports an environment of prevention, collaboration, communication, response, and recovery, ultimately ensuring our ability to serve customers, shareholders and employees in the face of disruptive events.

Within this document we summarise Lumen’s BCM program and its resiliency and preparedness capabilities.

## Program Goals

Lumen’s vision, strategy, and corporate objectives prescribes to the following goals. Annually:

- Evaluate the purpose and operations of every business unit in the company, identifying threats, hazards, and potential impacts to critical business priorities
- Develop strategies for mitigation, continuity, and recovery
- Maintain uninterrupted service whenever possible, and when necessary, coordinate recovery from business disruptions safely and quickly
- Enable continuous improvement by periodically reviewing Program strategy and performance.

## Program Governance

**Standards:** Lumen has aligned its Program to adhere to ISO 22301:2012, the International Standard for Business Continuity Management (BCM). Lumen’s Program was awarded certification<sup>1</sup> to this industry standard of its BCM system and subsequent business functions supporting the SAP-HANA Enterprise Cloud for Managed Hosting Services environment.

**Leadership:** Lumen’s highest-level executives support the Program by assigning program partners to represent their organisation’s interest in operational resiliency.

**Policy:** In adherence to our company policy, Lumen is committed to maintaining a Corporate BCM team, framework, Program objectives, and assignment of resources to execute the Program. The BCM Program Policy is reviewed and updated on an annual basis.

**Metrics:** The Corporate BCM team maintains a dashboard to monitor and evaluate the performance of Program activities.

**Audit:** Lumen engages internal and external audit firms to perform multiple types of assessments address our customers’ diverse compliance requirements.

Detailed plans are available on request.