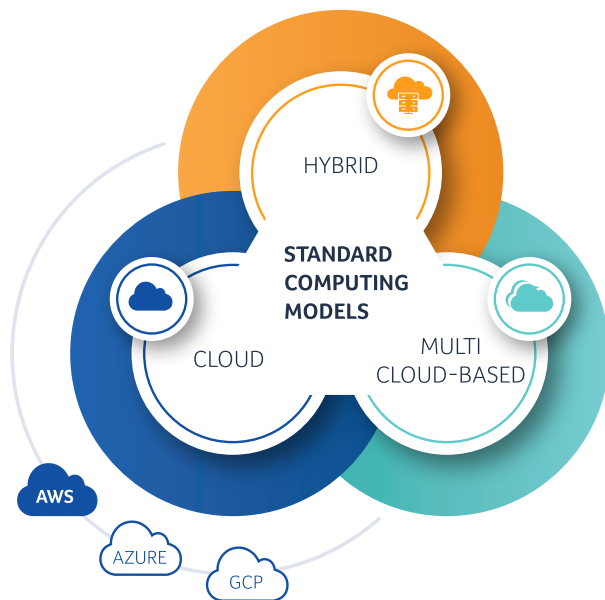




## **MOBIUS® CONTENT SERVICES DEPLOYED ON AMAZON WEB SERVICES**



## INTRODUCTION

Cloud / Hybrid / Multi cloud-based infrastructures are quickly becoming standard computing models. ASG Technologies has been working with public cloud platform service providers for several years, gaining tremendous knowledge and experience delivering its solutions to run on popular cloud platforms, particularly Amazon Web Services (AWS), Microsoft Azure Cloud Computing Platform and Services (Azure), and Google Cloud Platform (GCP). This document describes the architecture, functionality and capabilities that are available to deploy and run Mobius Content Services on AWS.

The [Mobius - AWS Deployment Guide](#), available as part of the Mobius documentation set, provides more detailed instructions on how to install and set up Mobius.



AWS, through its ready to use platform, offers organizations the ability to forgo expensive upfront infrastructure costs and adopt monthly variable computing costs that scale based on need and demand. With AWS, organizations do not need to plan for and procure racks of servers, spend countless hours choosing and deploying operating systems, or become mired in software configurations, custom-scripting and roll-out procedures. Instead, they can instantly spin up hundreds or thousands of software-ready servers and deliver results faster without interrupting business operations.

As a result, businesses that move to AWS can:

- Consolidate and reduce IT infrastructure
- Shift capital expenditures to operating expenses
- Decrease IT operational costs
- Roll-out new solutions across geographies and languages faster
- Streamline business processes and workflows
- Acquire inherent multi-location and disaster recovery facilities
- Accelerate their digital transformation efforts to meet changing business and market requirements

## CLOUD COMPUTING MODEL

There are three primary cloud computing models: Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS). Mobius can be deployed to utilize each model, with SaaS involving the delivery of Mobius as a managed service. Each cloud deployment model provides full access to all Mobius Content Services deployed on AWS. Mobius is licensed by ASG Technologies on term and subscription basis to be deployed and used on AWS, on-premises, or both. Partners offer hosted, managed services through which Mobius is licensed.

### Infrastructure as a Service (IaaS)

Presents the basic building blocks for cloud IT and provides access to networking features, servers (virtual or on dedicated hardware), and data storage space. IaaS delivers the highest level of flexibility and management control over IT resources in a cloud computing environment.

### Platform as a Service (PaaS)

Removes the need to manage underlying infrastructure including hardware and operating systems. The focus is on deployment and management of business applications. IT doesn't have to manage resource procurement, capacity planning, software maintenance, patching, or any of the other heavy lifting involved in running business applications.

### Software as a Service (SaaS)

Is a completed product, usually end-user software applications. Service providers run, manage, and maintain the application and deliver it via the Internet. The subscriber of the service usually pays a subscription fee to access and use the software application.

### Managed Services

Are also complete products, usually end-user software applications, that service providers run, manage, and maintain. They too are accessed via the Internet. In this model, the service provider is responsible for the installation, configuration and execution of the software application but the subscriber retains the software application licenses.

## CLOUD COMPUTING DEPLOYMENT MODEL

Mobius is designed to excel in performance and dependability on AWS. The cloud computing model to use depends on the use case(s) and business requirements of each organization.

### Public Cloud

Software applications are fully deployed and run only in the cloud without any resources or software installed on-premises. These applications have been created to run in the cloud or have been migrated from an existing on-premises infrastructure to take advantage of cloud computing benefits. Cloud-based applications provide abstraction from managing, architecting, and scaling requirements of hardware and software components required for cloud computing.

### Private Cloud

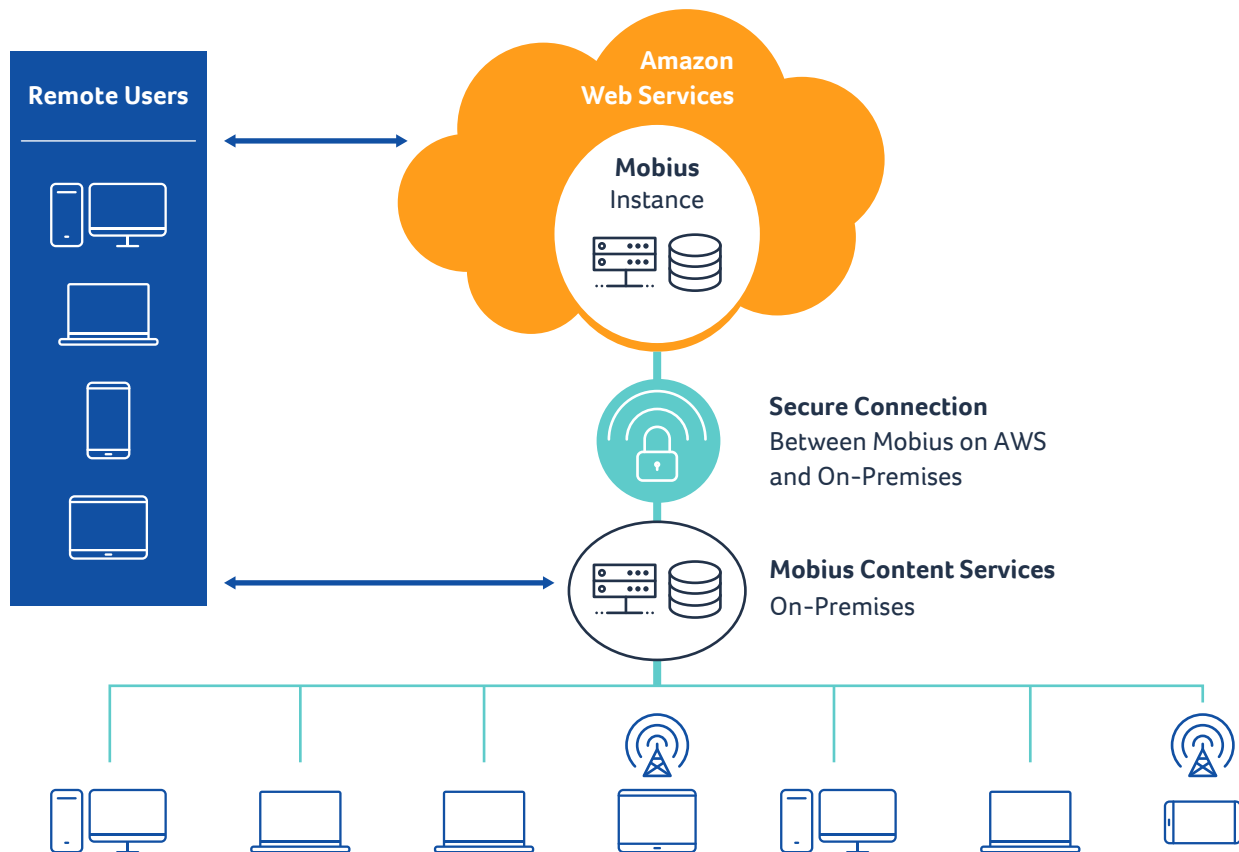
Resources on-premises using virtualization and resource management like public clouds are used to deploy and run software applications. It is offered over the Internet or a private network to a single organization and only to select users, e.g., SAP Hana, Salesforce, and Box. This deployment model is the same as on-premises IT infrastructure while using application management and virtualization technologies to increase resource utilization.

### Hybrid Cloud

Combines on-premises IT infrastructure and applications with cloud-based resources to deploy and run software applications. In a hybrid cloud data and applications can move between on-premises infrastructure, private clouds and public clouds for greater flexibility, more deployment options, and a faster path to IT rationalization.

### Multi-Cloud

Recognizes that organizations will consume resources from more than one cloud platform. This includes public clouds (AWS, Azure, Google Cloud), private clouds and on-premises IT. This may create new management requirements but provides the ability to mix and match cloud services to optimize application capabilities and delivery.



Mobius Content Services Operating in a Hybrid Cloud Environment, Deployed On-Premises and in AWS.

## MOBIUS CONTENT SERVICES CAPABILITIES ON AWS

Mobius Content Services deployed on AWS is a policy-based and rules-driven content solution to capture, manage and govern large and varied volumes of enterprise content and unstructured data. It can be deployed in cloud-only and hybrid cloud environments using Kubernetes anywhere AWS is located.

### Scalability and Elasticity

Mobius is deployed in configurable pools using AWS Elastic Compute Cloud (EC2) and Elastic Load Balancing (ELB) services.

### Availability

AWS provides Mobius with the flexibility to place instances and store data within multiple geographic regions as well as across multiple Availability Zones within each AWS Region. If one instance fails, then an instance in another availability zone can handle the request.

### Security

All communications between Mobius and AWS Relational Database Service (RDS) are encrypted.

### Integrated Configuration

Using the AWS CloudFormation Template (CFT), Mobius products are deployed, preconfigured, and ready to use.

The glossary table provides a complete list of AWS features that are significant for Mobius Content Services deployed on AWS ([see end of document](#)).

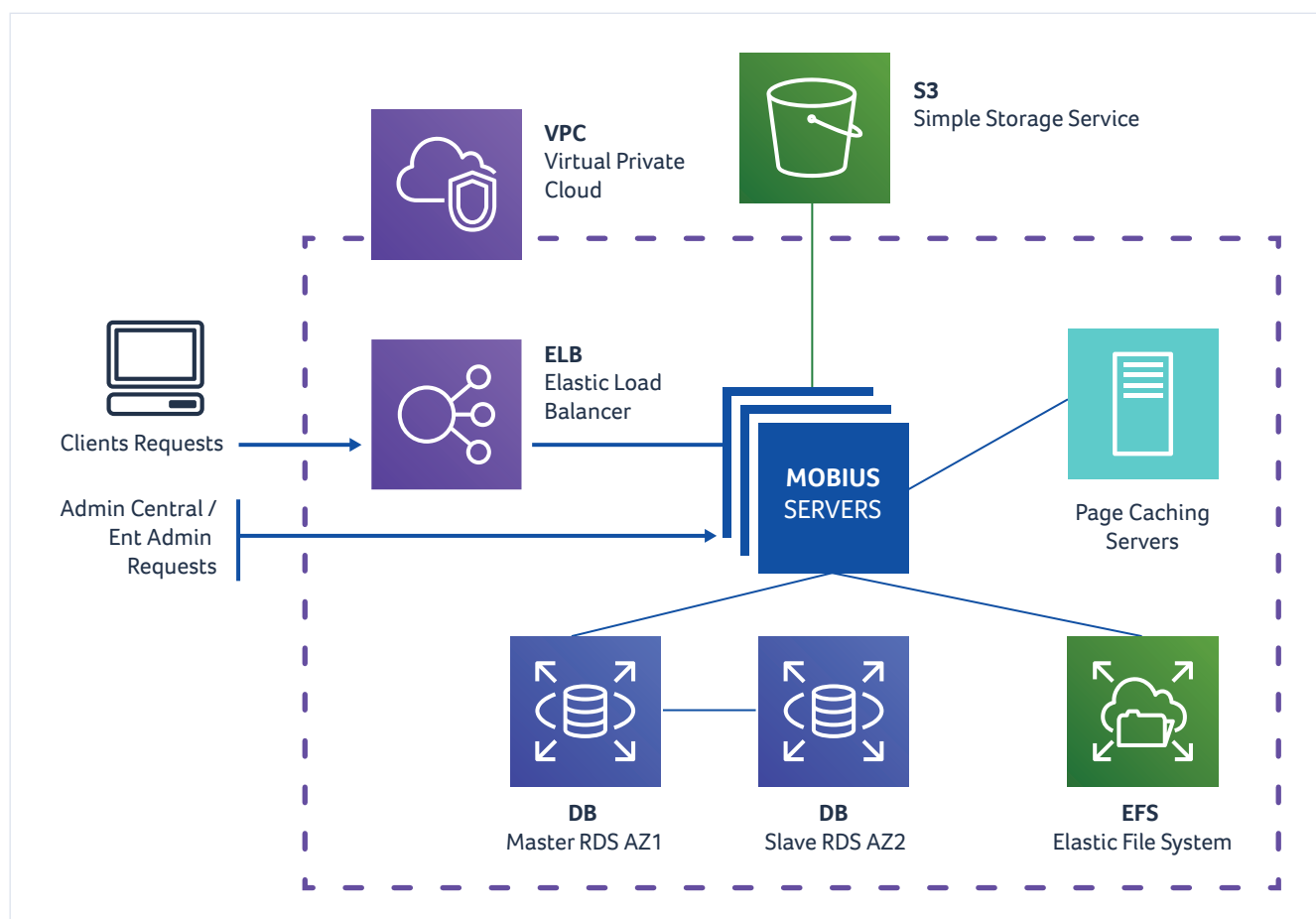
## MOBIUS CONTENT SERVICES COMPONENTS AVAILABLE ON AWS

Mobius Content Services deployed on AWS consist of one or more Mobius server instances behind load balancers and driven by an autoscaling group. It also includes a managed relational database and one or more indexing and web application servers.

Mobius servers are deployed within an AWS Virtual Private Cloud (VPC) to run instances of Mobius server software. Each Mobius server instance contains one instance of the Mobius Repository for managing and storing content, and one instance of Mobius View for viewing content, plus the ability to deploy optional components including:

- REST API and CMIS (content federation) for connectivity and interoperability
- Workflow for business process automation
- Records Management, Redaction and Audit & Analytics Services for information governance and compliance
- Output Management for print and electronic document delivery

AWS elastic load balancing automatically distributes incoming client requests across Mobius servers, using HTTPS. Incoming administration requests connect directly to Mobius server instances.



Mobius Servers store data in AWS Elastic Block Store (EBS) volumes and other AWS storage facilities. For example, a mounted Elastic File System (EFS) volume is used by Mobius instances to store files that can be accessed by other instances in the Mobius stack. The Mobius stack also includes a Full Text Search server (FTS) that can be deployed and scaled independently.

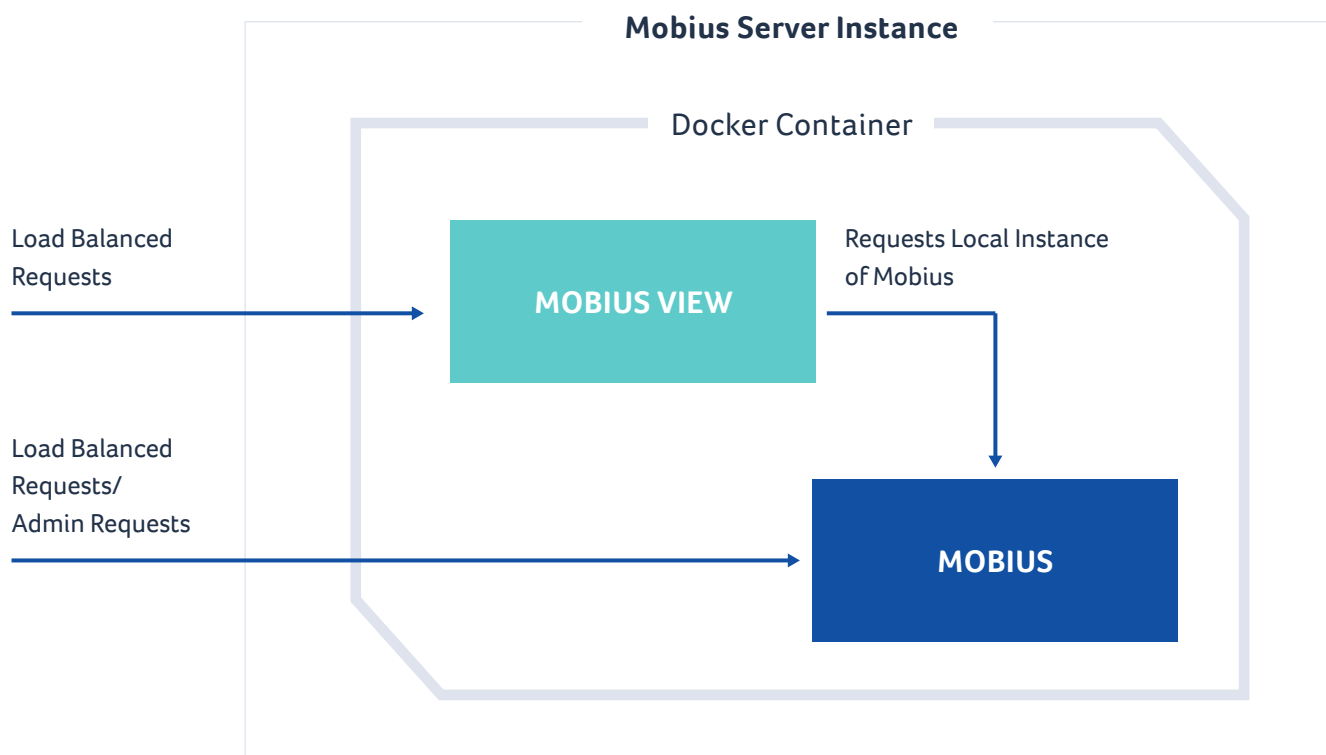
Mobius nodes may be deployed on multiple availability zones for maximum availability. Administrators can pick one or more availability zones during stack creation to protect against complete zone outage.

Content for archiving is placed on a mounted EFS volume. Archives are stored in a Simple Storage Service (S3) bucket. S3 is highly reliable and minimizes the need for redundant backups. Organizations pay only for the space that is used and it provides clear cost accounting for storage.

To index data on the Mobius FTS server, content must be archived to either an EFS volume or to S3.

Amazon Relational Database Service (RDS), Aurora for PostgreSQL or Oracle provides a database cluster that is shared among Mobius server product instances. All administrative tasks for the database are managed by AWS. The cluster can have multiple database instances deployed in multiple availability zones, e.g., AZ1 and AZ2 for high availability and automatic backup.

A Hazelcast in-memory caching server with AWS support is used for page caching. The page caching server is optional and can be omitted from the Mobius server stack creation.



Mobius Server Instance Components

## THE MOBIUS ADVANTAGE ON AWS

### EXTREME FLEXIBILITY

- Organizations benefit from one set of content services to manage enterprise content and applications on AWS and hybrid cloud deployments
- Business users can use PC, tablet, and smartphone to access their work regardless of content type or platform

### IT FRIENDLY

- Deploys instantly with Docker Kubernetes with high-scalability in the cloud
- Helps rationalize and reduce the management of legacy content systems and repositories
- Auto-scales to meet increase or decrease in computing demand

### REDUCES IT INFRASTRUCTURE COSTS

- Deploys at the pace of business
- Reduces total datacenter hosting and infrastructure costs and IT staff costs in ½ or more

### MAINTAINS BUSINESS CONTINUITY

- Reduces costs of unplanned downtime on productivity by 80%
- Uses existing workflows and content deployed on-premises
- Federates and moves content seamlessly between AWS, Mobius on-premises deployments, and 3rd party applications

### ADMINISTERS COMPLIANCE IN THE CLOUD

- Manages content at web-scale volumes and high-performance levels on demand
- Applies policies to content to automate compliance from capture to destruction
- Governs what user can access, modify and manage securely

## SUMMARY

Mobius Content Services deployed on AWS provides building blocks needed to rollout unique and varied content solutions to employees, partners and customers. Mobius delivers a complete set of highly available content services that are designed to work together on AWS and on-premises to build sophisticated and scalable content management solutions.

Amazon Web Services provides secure multi-tiered storage, scalable low-cost computing environments, high-performance databases, system management tools, and more. AWS is trusted by the largest enterprises to power a wide variety of computing workloads, including web and mobile applications, real-time and batch data processing and warehousing, high-volume content storage, saleable content archive, and others.



## GLOSSARY TABLE

AWS FEATURE	DESCRIPTION
<b>Availability Zone (AZ)</b>	Amazon EC2 is hosted in multiple locations world-wide. These locations are composed of Regions and Availability Zones. Each Region is a separate geographic area. Each Region has multiple isolated locations known as Availability Zones. Amazon EC2 provides the ability to place resources, such as instances, and data in multiple locations.
<b>CloudFormation</b>	Provides a common language to describe and provision all the infrastructure resources needed in a cloud environment.
<b>CloudFormation Template (CFT)</b>	Describes the AWS infrastructure needed to run an application or service along with any interconnections among infrastructure components.
<b>Command Line Interface (CLI)</b>	Enables developers to control AWS by typing commands to specify a profile, region or output format that's different than default configurations.
<b>Elastic Container Registry (ECR)</b>	A fully-managed Docker container registry that makes it easy for developers to store, manage, and deploy Docker container images.
<b>Elastic Block Storage (EBS)</b>	Provides persistent block storage volumes for use with Amazon EC2 instances in the AWS Cloud. Each Amazon EBS volume is automatically replicated within its Availability Zone to protect from component failure, offering high availability and durability.
<b>Elastic Compute Cloud (EC2)</b>	A web service that provides secure, resizable compute capacity in the cloud, designed to make web-scale cloud computing easier.
<b>Elastic File System (EFS)</b>	A fully managed AWS service that is built to scale on-demand to handle petabytes of data without disrupting applications, growing and shrinking automatically as files are added and removed, so applications have the storage they need – when they need it.
<b>Elastic Load Balancing (ELB)</b>	Automatically distributes incoming application traffic across multiple targets, such as Amazon EC2 instances, containers, and IP addresses, varying the load of application traffic in a single Availability Zone or across multiple Availability Zones.
<b>Identity and Access Management (IAM)</b>	Provides secure access to manage to AWS services and resources, e.g., create and manage AWS users and groups and use permissions.
<b>Relational Database Service (RDS)</b>	An AWS service to set up, operate, and scale a relational database in the cloud. It automates administration tasks such as hardware provisioning, database setup, patching and backups.
<b>Simple Storage Service (S3)</b>	Storage for any amount of data for any use case, including applications, IoT, data lakes, analytics, backup and restore, archive, and disaster recovery. S3 is designed for 99.999999999% durability to protect data from site-level failures, errors, and threats.
<b>Virtual Private Cloud (VPC)</b>	VPC lets organizations provision a logically isolated section of the AWS Cloud where they can launch AWS resources in a virtual private network that they define.
<b>Hazelcast</b>	A free open source download application under the Apache license that is used to build simple mission-critical, transactional, and terascale In-Memory Computing applications.
<b>SolrCloud</b>	An open source enterprise search platform that includes full-text search, hit highlighting, faceted search, real-time indexing, dynamic clustering, database integration, NoSQL features and rich document (e.g., Word, PDF) handling.

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