Rocket® software

Rocket® Mobius® Deployed on Microsoft Azure®

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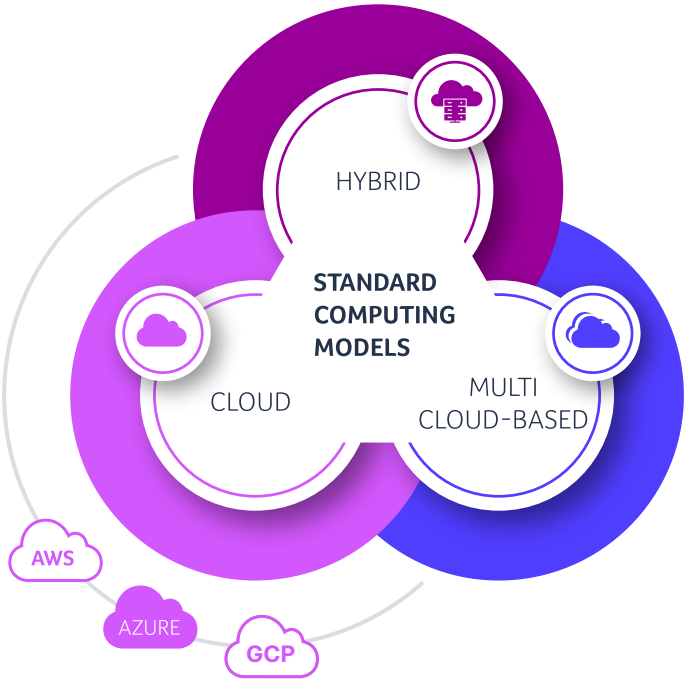
Introduction

Cloud / Hybrid / Multi cloud-based infrastructures are quickly becoming standard computing models. Rocket Software has collaborated with public cloud platform service providers for several years, gaining tremendous knowledge and experience delivering its solutions to run on popular cloud platforms, such as Microsoft Azure® Cloud Computing Platform and Services (Azure), Amazon Web Services® (AWS), and Google Cloud Platform® (GCP).

This document describes the architecture, functionality and capabilities that are available to deploy and run Rocket® Mobius® Content Services on Azure.



Azure, 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 Azure, 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, you can instantly spin up hundreds or thousands of software-ready servers and deliver results faster without interrupting business operations.

Businesses that transition to Azure can:

- Consolidate and reduce IT infrastructure.
- Shift capital expenditures to operating expenses.
- Decrease IT operational costs.
- Roll-out new solutions across geographies faster.
- Streamline business processes and workflows.
- Benefit from multi-location and disaster recovery facilities.
- Enhance security and compliance activities to reduce complexity across a distributed infrastructure.
- Accelerate digital transformation efforts to meet changing business and market requirements.

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Cloud Computing Models

There are three primary cloud computing models: Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS). Rocket 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 Rocket Content Services deployed on Azure. Mobius is licensed by Rocket Software on term or subscription basis to be deployed and used on Azure, 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 isn't required 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 complete 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 typically pays a subscription fee for access and usage.

Managed Services are also complete products, usually end- user software applications, that service providers run, manage, and maintain. They 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 ownership of the software application licenses.

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Cloud Computing Deployment Models

Rocket Mobius is designed to excel in performance and dependability on Azure. The cloud computing model 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 S/4 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 deployment, 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 (Azure, AWS, Google Cloud), private clouds, and on-premises IT. This may create new management requirements, but it provides the ability to mix and match cloud services to optimize application capabilities and delivery.

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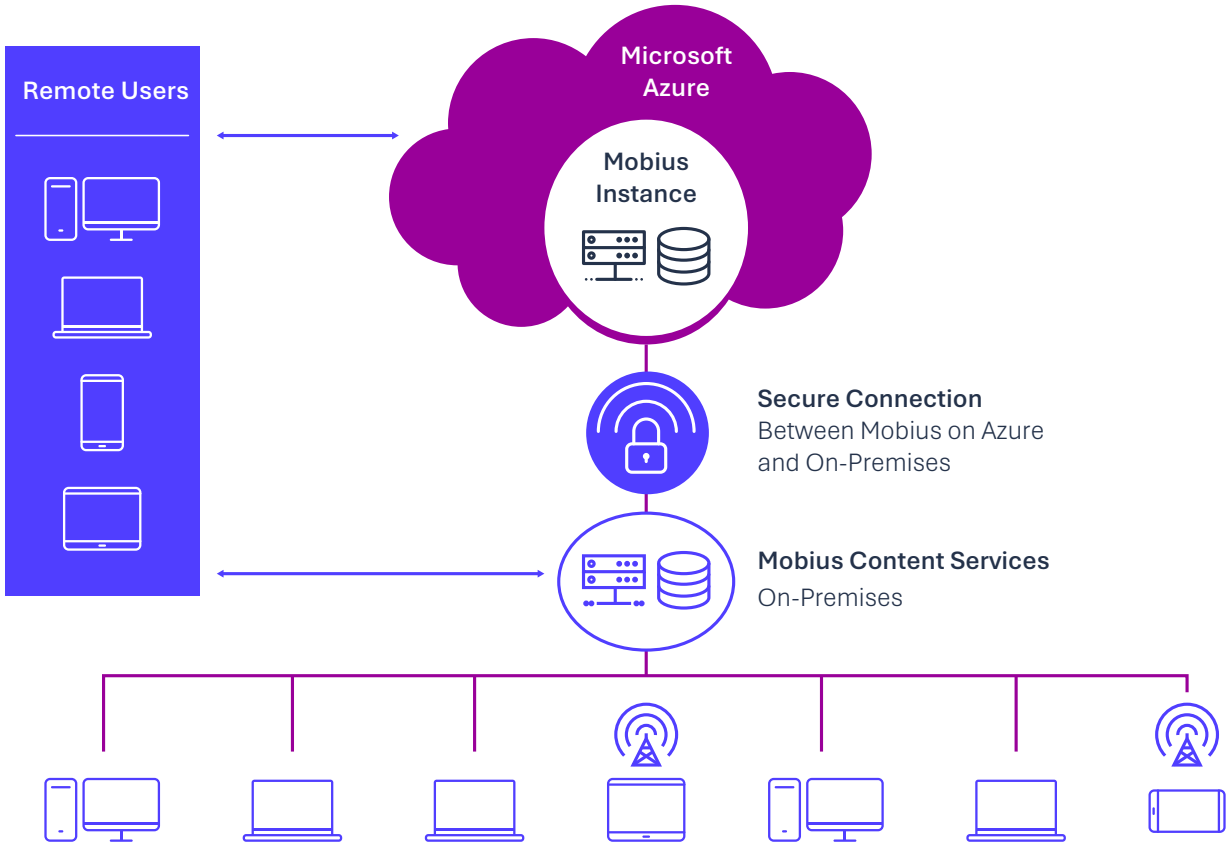

Rocket Content Services Operating in a Hybrid Cloud Environment, Deployed On-Premises, and on Microsoft Azure

Rocket Mobius Capabilities on Azure

Mobius deployed on Azure is a policy-based and rules-driven content solution, architected 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 Azure is located.

Scalability and Elasticity

Mobius is deployed in configurable pools using Azure Virtual Machine Scale Sets (VMSS) and Application Gateways.

Integrated Configuration

Using the Azure Resource Manager (ARM), Mobius products are deployed, preconfigured and ready to use.

Availability

Containerization technologies like Docker provide Mobius with the flexibility to place instances and store data within multiple geographic regions as well as across multiple availability zones within each Azure Region. If one instance fails, then an instance in another availability zone can handle the request.

Security

All data in Mobius is securely encrypted both at rest and in-transit. Communications within the different components of Mobius and the Azure Relational Database are encrypted using HTTPS while any data stored in Mobius is encrypted with FIPS compliant AES-256 bit encryption.

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Rocket Mobius Components Available on Azure

Mobius deployed on Azure consists 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.

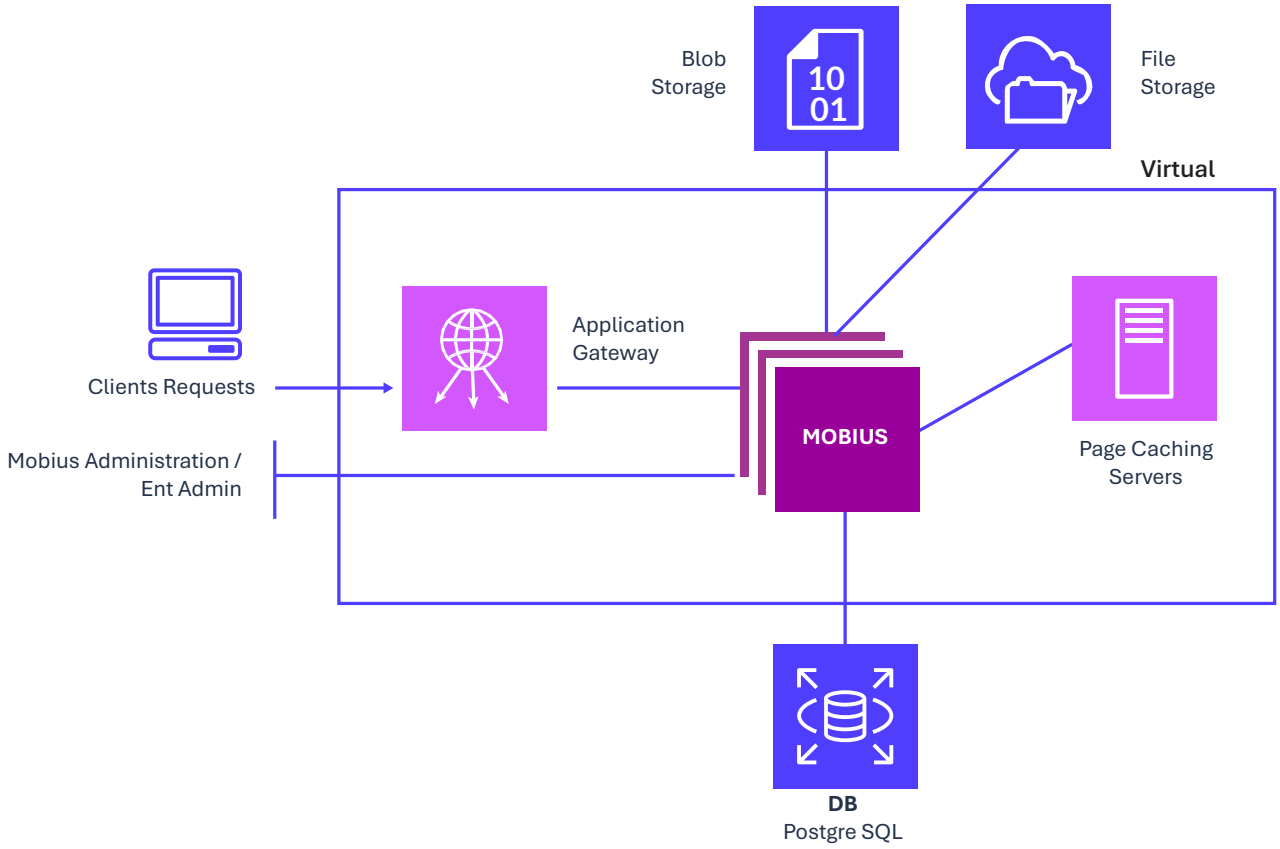
Mobius servers are deployed within an Azure Virtual Network (VN) to run instances of Mobius server software. Each Mobius server instance contains one instance of the Mobius Repository for managing and storing content, one instance of Mobius View for viewing content, and the ability to deploy optional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

- REST API and CMIS (content federation) for connectivity, interoperability, and integration.
- Workflow for business process automation.
- Records Management, Redaction, and Audit & Analytics Services for information governance and compliance.
- Full Text Search that combines metadata and full text information to precisely locate relevant content.
- Output Management for print and electronic document delivery.
- Smart Chat for GenAI-powered questions and answers.

The Azure Application Gateway is a web traffic load balancer that automatically distributes incoming client requests across the Mobius servers. Incoming administration requests connect directly to Mobius server instances. Autoscaling is supported, removing the requirement to choose a deployment size or instance count during provisioning.

The glossary reference (at the end of this document) provides a comprehensive list of Azure features that are significant for Mobius Content Services deployed on Azure.

Mobius Azure Architecture



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Mobius servers store data in Azure Blob Storage, which provides low-cost, high reliability storage for very large data volumes. Mobius on Azure manages user, report, content, metadata, security, and other information using a managed Azure PostgreSQL database.

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

The Mobius Advantage on Azure

Extreme Flexibility

- Organizations benefit from one set of content services to manage enterprise content and applications on Azure and hybrid cloud deployments.
- Business users can use PCs, tablets, and or smartphones 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 automatically meet increases or decreases in computing demand.

Reduces IT Infrastructure Costs

- Deploys at the pace of your business.
- Reduces total datacenter hosting and infrastructure costs and IT staff costs in ½ or more, using cloud native resources like Azure Virtual Machines, Azure Blobs, and Azure SQL Database.

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 Azure, 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 users can access, modify, and manage securely.

Summary

Rocket Mobius deployed on Azure provides essential 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 designed to work together on Azure and on-premises to build sophisticated and scalable content management solutions.

Microsoft Azure provides secure multi-tiered storage, scalable low-cost computing environments, high-performance databases, system management tools, and more. Azure 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.

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Glossary

AZURE FEATURE	DESCRIPTION
Availability Zone (AZ)	Azure is hosted in multiple locations world-wide and is designed to protect applications and data from datacenter failures and other localized disruptions. These locations are composed of Regions and Availability Zones. Each Region is a separate geographic area and has a minimum of three isolated locations known as Availability Zones. Azure provides the ability to place resources, such as instances and data, in multiple Availability Zones.
Azure Kubernetes Service (AKS)	A managed Kubernetes service provided by Microsoft Azure to simplify the deployment, management, and operations of Kubernetes clusters. Addresses health monitoring, maintenance, scaling, etc.
Azure Resource Manager (ARM)	The deployment and management service for Azure which provides a management layer to create, update, and delete resources in the Azure account. Use management features like access control, locks, and tags to secure and organize your resources after deployment.
ARM Template	JSON files used to define the infrastructure and configuration for an Azure project; they permit the easy deployment, management, and configuration of resources in a consistent and repeatable manner.
Command Line Interface (CLI)	A cross-platform command-line tool used to manage Azure resources with an emphasis on automation.
Azure Container Registry (ACR)	A managed, private Docker registry service based on the open-source Docker Registry 2.0. ACR supports the deployment, management, and storage of container images for development, testing/QA, and production. Developers can create and maintain Azure container registries to store and manage their private Docker container images.
Virtual Hard Disk (VHD)	VHD is used primarily for Hyper-V virtual machines. Provides persistent page blob storage, which are a random IO storage object in Azure. Available types of VHD are Ultra Solid State Drives (SSD) (Preview), Premium SSD, Standard SSD and Standard Hard Disk Drives (HDD).
Virtual Machine Scale Sets (VMSS)	Azure virtual machine scale sets permit developers to create and manage a group of identical, load balanced, and autoscaling VMs. The number of VM instances can automatically increase or decrease based on defined schedules, load, etc.
Azure Files	Fully managed file shares in the cloud that are accessible via the industry standard Server Message Block (SMB) protocol, Network File System (NFS) protocol, and Azure Files REST API. They can be mounted concurrently by cloud or on-premises deployments of Windows, Linux, and macOS. Azure file shares can also be cached on Windows Servers with Azure File Sync for fast access near where the data is being used.
Application Gateway	A web traffic load balancer that enables developers to manage traffic to specific web applications.
Microsoft Entra ID	Formerly known as Azure Active Directory (Azure AD), Microsoft Entry ID is a multi-tenant, cloud-based identity and access management service which helps employees sign in and access resources using a single set of login credentials.
Azure PostgreSQL	A fully managed relational database-as-a-service offering that can handle mission-critical workloads with predictable performance, security, high availability, and dynamic scalability.
Azure Blob Storage	Microsoft's object storage solution for the cloud. Blob storage is optimized for storing massive amounts of unstructured data, such as text.
Virtual Network (VNet)	Enables many types of Azure resources, such as Azure Virtual Machines (VM), to securely communicate with each other, the internet, and on-premises networks.
Elastic Cloud (Elasticsearch)	Elastic Cloud is the official hosted Elasticsearch service offered by Elastic, available on Azure. Elasticsearch is a 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.
Apache Kafka on HDInsight	Apache Kafka is an open-source distributed streaming platform that can be used to build real-time streaming data pipelines and applications.
Azure Load Balancer	Azure Load Balancer is a load balancing service that distributes incoming network traffic across multiple VMs or Services to ensure high availability, reliability and scalability of application.

About Rocket Software

Rocket Software is the global technology leader in modernization and partner of choice that empowers the world's leading businesses on their modernization journeys, spanning core systems to the cloud. Trusted by over 12,500 customers and 750 partners, and with more than 3,000 global employees, Rocket Software enables customers to maximize their data, applications, and infrastructure to deliver critical services that power our modern world. Rocket Software is a privately held U.S. corporation headquartered in the Boston area with centers of excellence strategically located around the world. Rocket Software is a portfolio company of Bain Capital Private Equity. Follow Rocket Software on LinkedIn and X.

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