
CLOUD TESTING & DEPLOYMENT GUIDE



**DATA
ROCKiT™**

Data's Missing Piece Technology

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 **CONFIDENTIAL - CUSTOMER USE ONLY**

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DATAROCKiT™

Data's Missing Piece Technology

Dependency on **Mainframes** Today

Mainframes remain critical to global operations across corporate and government sectors:

- 🌐 **71% of the Fortune 500** rely on mainframes, including **90% of top banks & insurers**.
- 🏛️ Nearly all **U.S. federal and state agencies** depend on mainframes.
- 🌐 **Major economies** (ASEAN, BRICS, and GCC nations, Japan, the UK, Germany, France, Italy, Canada, Mexico, Israel, and Spain) continue to rely heavily on these systems.

Global Opportunity: Outdated Systems Cost Billions

Aging COBOL based systems drain massive financial and operational resources across sectors:

- 🏛️ **Government Impact:** The [U.S. federal government](#) pours **80%** of its \$100 billion annual IT budget on technical debt and maintaining legacy systems, while [Canada](#) allots nearly \$8 billion—compromising innovation, security, and mission-critical objectives.
- 🏢 **Corporate Impact:** [Gartner](#) forecasts that in 2025, **40% of IT budgets** will go toward technical debt, including legacy systems, costing businesses over **\$300 billion annually**.
- 📉 **Financial Sector Impact:** **75% of banks** face major [legacy infrastructure](#) challenges, creating significant barriers to implementing new digital solutions and AI innovation.

The Solution: DATAROCKiT™

DATAROCKiT™ delivers groundbreaking technology that [migrates](#) mainframe data to the cloud **in hours, not years**—freeing trapped data to **break the cycle** of data underachievement and legacy dependency. Traditionally a **multi-year, \$100M+** project, this innovation unleashes unparalleled efficiency and scale across sectors, **empowering enterprises to monetize data and AI fast**.

The **DATAROCKiT™** Advantage

- 🚀 **Fast, Seamless Data Migration** – Slash timelines from years to hours.
 - 💰 **Massive Cost Savings** – Free up billions for reinvestment and innovation.
 - 🗝️ **Eliminate Technical Debt** – Break free from outdated systems and retiring talent.
-

Solving Problems By Changing How We Think About Them

Without clean, accessible high-quality data, AI and enterprises cannot thrive. **DATAROCKiT™** transforms mainframe-to-cloud migration, [freeing trapped data](#) and billions in potential savings, unmatched efficiency, and accelerated digital and data transformation —**in hours not years**.

DATAROCKiT™

Data's Missing Piece Technology

Unleashing Unstructured Data

The Unstructured Data Stranglehold:

80% of institutional data—PDFs, emails, transcripts, Title IX files, and more— is unstructured and unwieldy making it difficult to access, search, or use effectively with AI.

The Challenge

Millions of records straddle legacy systems and cloud platforms, limiting support, compliance, and innovation at **enterprises—until now.**

The Solution: DATAROCKiT™

DATAROCKiT™ transforms legacy and cloud data into clean, AI-ready formats **in just hours**—delivering clarity, innovation, and compliance without disruption.

The Outcome: Turning enterprise unstructured data into a **competitive advantage:**

- Smarter, faster decisions
- Real-time compliance and clarity
- Actionable data, Next-gen analytics for innovation and savings

Sample Higher Education: High-Impact Use Case

Functional Area	Common Unstructured Data	Transformed Outcomes
Unstructured Data	Siloed, scattered, inaccessible	Unified, structured, AI searchable
IT & Call Centers	Support tickets, chat logs, transcripts	Faster response times, improved support
HR & Faculty Affairs	Tenure, grievances, evaluation files	Streamlined reviews, increased transparency
Legal & Compliance	Title VI, DEI, antisemitism, FOIA compliance, settlements, contracts	Stronger compliance, seamless settlement monitoring
Admissions & Registrar	Appeals, financial aid, transfer docs	Faster processing, better communication
Student Affairs	Cases, disputes, grievances	Improved tracking, earlier interventions
Grants & Donors	Proposals, ethics reviews, agreements	Faster submissions, clearer collaboration
Finance & Advancement	Budgets, audits, endowment records	Improved planning, stewardship, readiness
Mainframe & Legacy Data	COBOL, VSAM, flat files—hard to extract	AI-ready formats in hours, cloud-ready gold

Efficiency. Compliance. AI Unleashed.

DATAROCKiT™ ends silos, unlocking structured data fast—no system overhauls required.

Solving Problems by Rethinking Data

Without clean, accessible, high-quality structured data AI can't thrive. DATAROCKiT™ transforms legacy and cloud data into structured, AI-ready formats in just hours, unleashing efficiency and innovation fast.

DATAROCKiT™ Cloud Testing & Deployment Guide

Ensuring Seamless, Secure, and Scalable Mainframe-to-Cloud Data Migration





Executive Overview

DATAROCKiT™ is an enterprise-grade platform helping people, organizations, and data become extraordinary together, fast. It transforms legacy and cloud data into clean, AI-ready cloud assets with blazing speed, precision, and security, letting you tap decades of potential in your cloud—Azure, AWS, Google Cloud, IBM Cloud, or hybrid—with full compliance and protection.

Purpose of This Guide

- Outline step-by-step validation and testing procedures
- Detail security configurations and compliance controls
- Provide deployment instructions for testing and production environments

Key Value Proposition

-  **Speed & Efficiency:** Fastest mainframe-to-cloud transformation
 -  **Accuracy & Security:** 99.99%+ accuracy with a zero-trust architecture
 -  **Scalability:** Unlimited data scalability
 -  **Flexibility:** Multi-cloud integration including hybrid environments
-

Key Features

- **Processing Location Options:** Customer Cloud, DATAROCKiT™ Cloud, Hybrid, and Cross-Cloud Deployment
 - **Compliance Certifications:** SOC 2, HIPAA, GDPR, ISO 27001, FedRAMP (including FedRAMP High), FISMA, CJIS, DoD IL5/6, ITAR, PCI-DSS, SOX, HITECH
 - **Multi-Cloud Support:** Full native integration
-

Data Types We Handle

Structured Data

- **Examples:** CSV, SQL, COBOL copybooks (e.g., customer records layout), VSAM, JSON, XML, DB2 datasets.

Unstructured Data

- **Examples:** Text logs, Word, PDFs, PowerPoints, Video, Image, raw VSAM output.

Semi-Structured Data

- **Examples:** Word, PDFs, PowerPoints.

Roles & Responsibilities

Role	Responsibilities
Customer	Provides data, configures security, defines KPIs, reviews reports, and approves deployment
DATAROCKiT™ Team	Executes migration, ensures compliance, validates data, and provides logs and analytics
Cloud Provider	Secures infrastructure, enforces compliance, and supplies monitoring tools





Our Approach: Transforming Legacy Data

DATAROCKiT™ turns decades of mainframe and cloud data into clean, AI-ready cloud assets in **just hours**—delivering security, innovation, and compliance without disruption. You get:

- ✓ **Fast results:** Cloud-ready data in hours, not years
 - ✓ **Seamless integration:** Works with modern data platforms and AI/ML frameworks
 - ✓ **Enterprise-grade security:** Meets or exceeds regulatory requirements
 - ✓ **Flexible deployment options:** Fits your cloud or hybrid setup
-

Deployment Decision Guide






Based on your requirements, pick your setup:

-  **Customer Cloud:** Ideal for data residency—full control in your Azure, AWS, Google Cloud, or IBM Cloud, using secure, containerized processing.
 -  **DATAROCKiT™ Cloud:** Ideal for quick setup—secure, isolated processing in our Azure air-gapped, **SOC 2-compliant** environment, delivered encrypted to you.
 -  **Hybrid:** Ideal for mixed needs—on-prem for sensitive data, cloud for scale.
 -  **Cross-Cloud:** Ideal for multi-cloud—process in one, deliver to another with optimized performance and consistent security across cloud boundaries.
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Security & Compliance Framework

DATAROCKiT™ employs multiple layers of protection to ensure enterprise-grade security.

Core Security Principles

-  **Zero-Trust Architecture** – No implicit trust for any user or system; every request is verified before granting access.
-  **Defense in Depth** – Multiple security layers, including secure API gateways, firewalls, and anomaly detection.
-  **Least Privilege Access** – Role-Based Access Control (RBAC) and Multi-Factor Authentication (MFA) to ensure only authorized access.
-  **Complete Encryption** – AES-256 encryption for data at rest and in transit, ensuring end-to-end protection.
-  **Comprehensive Auditing** – Immutable logs for full traceability, real-time monitoring, and automated compliance reporting.

Security Implementation by Layer

<u>Layer</u>	<u>Controls</u>	<u>Business Impact</u>
Network	Private connectivity, IP whitelisting	Eliminates public exposure, reducing attack risks
Identity	MFA, RBAC, managed identities	Prevents credential theft and unauthorized access
Data	AES-256 encryption, BYOK/CMEK, data masking	Ensures compliance with regulatory frameworks
Processing	Air-gapped environments, container isolation	Prevents data leakage during transformation
Monitoring	Real-time threat detection, immutable audit logs	Enables rapid incident response

Compliance Certifications

DATAROCKiT™ adheres to the most stringent regulatory frameworks:

- **General:** SOC 2 Type II, ISO 27001, NIST 800-53
- **Financial:** PCI-DSS, SOX
- **Healthcare:** HIPAA, HITECH

- **Government:** FedRAMP High, FISMA, CJIS, DoD IL5/6, ITAR
- **International:** GDPR, CCPA, PIPEDA

Cloud Tools:

- **Azure:** Private Link, Key Vault, Defender
 - **AWS:** PrivateLink, KMS, GuardDuty
 - **Google Cloud:** VPC Peering, CMEK, Security Command
 - **IBM Cloud:** Direct Link, Key Protect, Security Advisor
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Testing, Validation & Deployment Process

Getting Started: Quick User Instructions

Start your DATAROCKiT™ journey with these steps:

Sign Up

- Visit datarockit.com, submit your business email, and check inbox (or spam) for credentials.

Log In

- Access dashboard.datarockit.com with your credentials.

Choose Your Setup

- Fill out the required forms* on your dashboard.
- Select your environment (Customer Cloud, DATAROCKiT™ Cloud, Hybrid, Cross-Cloud) under “Test Settings” on the dashboard.
- Choose your “Test Type” (select either “Mainframe Data Migration” or “Unstructured Cloud Data Transformation”).
- Hit “Confirm” when completed.
- Await confirmation email from support@datarockit.com.

Prepare & Send Your Test Data

- **Prepare Data:** Submit a 10–100MB (or up to 5GB for broader tests) sample dataset in any of the following formats:
 - **Unstructured data only** – e.g., logs, emails, images, videos, PDFs
 - **Mainframe/legacy data only** – e.g., COBOL, VSAM, flat files
 - **Combined dataset** – a mix of both unstructured cloud and mainframe/legacy data
 - Please indicate whether the dataset contains any sensitive information (e.g., PII), and specify any security requirements (e.g., “encrypt IDs”)
- **Send Test Data:** Upload via dashboard or your cloud.
- **Transfer Options:**
 - **Azure:** Blob Storage via Private Link.
 - **AWS:** S3 with temporary key.

- **Google Cloud:** GCS with signed URL.
- **IBM Cloud:** Object Storage via secure link.
- **Hybrid:** On-prem via SFTP/API, cloud as above.

Validate & Approve:

- *Check Results.*




Go Live:

- **Deploy:** Pick Phased Deployment, Big Bang (Full) Migration, or Parallel (Legacy & Cloud) Rollout on the dashboard.
- **Integrate:** Set ingestion (e.g., API, batch), frequency (e.g. 1-time, recurring, or continuous), Bring Your Own Key (BYOK) encryption, and secure data delivery.

Need Help?

Contact support@datarockit.com for assistance.

Production Deployment Strategies

-  **Phased Deployment** – Gradual rollout minimizes risk while allowing controlled testing and validation. Ideal for complex enterprise environments.
 -  **Big Bang Migration** – Full transition in a coordinated effort, requiring extensive pre-planning and testing. Best for companies with a clear-cut go-live strategy.
 -  **Parallel Operation** – Legacy and new systems run concurrently, ensuring stability before full migration. Allows real-time validation and fallback options.
-

Configuration & Ingestion

Data Ingestion Options

- **One-time Migration** – Bulk transfer with validation
- **Recurring Processing** – Scheduled or event-driven
- **Continuous Integration** – Real-time streaming (Kafka, EventGrid)
- **Incremental Updates** – Delta processing for efficiency

Security Configuration

- **BYOK Encryption** – Customer-managed keys
 - **Access Control** – Role-based (RBAC) and multi-factor authentication (MFA)
 - **Monitoring & Auditing** – Real-time alerts and immutable logs
-

Cloud-Specific CLI Deployments

Azure Implementation

Key Services and Configurations:

- **Connectivity:** Azure Private Link, ExpressRoute
- **Identity:** Azure AD, Managed Identities
- **Storage:** Blob Storage with CMK, Data Lake Gen2
- **Compute:** AKS, Azure Functions with VNET integration
- **Security:** Microsoft Defender for Cloud, Key Vault
- **Monitoring:** Azure Monitor, Log Analytics

Azure CLI Deployment Example:

Create a resource group

```
az group create --name datarockit-rg --location eastus
```

Create a storage account with private endpoint

```
az storage account create --name datarockitstorage --resource-group datarockit-rg --sku Standard_LRS --enable-hierarchical-namespace true
```

Deploy an AKS cluster

```
az aks create --resource-group datarockit-rg --name datarockit-aks --node-count 3 --enable-managed-identity --enable-private-cluster
```

Enable Microsoft Defender for Cloud

```
az security pricing create -n Storage --tier Standard
```

AWS Implementation

Key Services and Configurations:

- **Connectivity:** AWS PrivateLink, Direct Connect
- **Identity:** IAM Roles with least privilege
- **Storage:** S3 with SSE-KMS, Glacier for archival
- **Compute:** EKS, Lambda with VPC configuration
- **Security:** GuardDuty, AWS KMS, CloudTrail

- **Monitoring:** CloudWatch, Security Hub

AWS CLI Deployment Example:

Create an S3 bucket with encryption

```
aws s3api create-bucket --bucket datarocket-bucket --region us-east-1
```

```
aws s3api put-bucket-encryption --bucket datarocket-bucket --server-side-encryption-configuration '{"Rules":[{"ApplyServerSideEncryptionByDefault":{"SSEAlgorithm":"AES256"}}]}'
```

Create an IAM role for EKS

```
aws iam create-role --role-name datarocketEKSRole --assume-role-policy-document file://eks-trust-policy.json
```

Deploy an EKS cluster

```
aws eks create-cluster --name datarocket-eks --role-arn arn:aws:iam::123456789012:role/datarocketEKSRole --resources-vpc-config subnetIds=subnet-abc123,subnet-def456
```

Google Cloud Implementation

Key Services and Configurations:

- **Connectivity:** VPC Peering, Cloud Interconnect
- **Identity:** GCP IAM with custom roles
- **Storage:** GCS with CMEK, BigQuery
- **Compute:** GKE with private clusters
- **Security:** Security Command Center, Cloud KMS
- **Monitoring:** Cloud Monitoring, Cloud Logging

GCloud CLI Deployment Example:

Create a GCS bucket with encryption

```
gcloud storage buckets create gs://datarocket-bucket --location=US --encryption-key=my-key
```

Deploy a private GKE cluster

```
gcloud container clusters create datarockit-gke --enable-private-nodes --zone us-central1-a
# Enable Security Command Center
gcloud scc settings update --organization=123456789012 --settings-enabled
```

IBM Cloud Implementation

Key Services and Configurations:

- **Connectivity:** Direct Link, Transit Gateway
- **Identity:** IBM Cloud IAM, Access Groups
- **Storage:** Cloud Object Storage, Key Protect
- **Compute:** Red Hat OpenShift, Code Engine
- **Security:** Security Advisor, Activity Tracker
- **Monitoring:** Cloud Monitoring, LogDNA

IBM Cloud CLI Deployment Example:

```
# Login to IBM Cloud
```

```
ibmcloud login --apikey YOUR_API_KEY
```

```
# Create a Cloud Object Storage instance
```

```
ibmcloud resource service-instance-create datarockit-cos cloud-object-storage standard global
```

```
# Deploy an OpenShift cluster
```

```
ibmcloud oc cluster create classic --name datarockit-cluster --workers 3
```

```
# Enable Security Advisor
```

```
ibmcloud security-advisor settings-update --enable
```

Monitoring & Support

- **Metrics:** Speed, accuracy, resource use, security events
- **Tools:** Azure Monitor, AWS CloudWatch, Google Cloud Monitoring, IBM LogDNA
- **Troubleshooting:**
 - **Connectivity:** Check network settings

- **Errors:** Adjust schema rules
 - **Access:** Verify RBAC
 - **Support:** Email support@datarockit.com (8am-4:30pm CT, Mon-Fri)
-

Troubleshooting: Common Issues and Resolutions

<u>Issue</u>	<u>Potential Causes</u>	<u>Resolution Steps</u>
Connection failures	Network configuration, expired credentials	Verify private link settings, check credential expiration, validate firewall rules
Processing delays	Resource constraints, large datasets	Scale compute resources, implement chunking for large files, optimize transformation rules
Schema validation errors	Source data inconsistencies, mapping issues	Validate source data integrity, review schema mapping rules, implement data cleansing
Security alerts	Unauthorized access attempts, misconfigured permissions	Review access logs, verify RBAC settings, update security policies

Support Channels and SLAs

DATAROCKIT™ offers tiered support options to meet your operational requirements:

Standard Support:

- **Email support:** support@datarockit.com
 - **Business hours:** 8am-4:30pm Central Time, Monday-Friday
-

Disaster Recovery & Continuity

DATAROCKiT™ is designed to meet enterprise requirements for business continuity

- **Rollback:** Halt pipeline, restore from checkpoint, fix issues, revalidate
 - **Features:** Multi-region redundancy, automated backups, high availability
-

Take Action Today

DATAROCKiT™ provides an enterprise-grade solution for securely transforming legacy data into AI-ready cloud assets. Our platform combines industry-leading speed and accuracy with the highest security standards to accelerate your AI and digital transformation journey.

Solving Problems by Rethinking Data

Without clean, accessible, high-quality data AI can't thrive. DATAROCKiT™ transforms legacy and cloud data into AI-ready formats **in just hours** —unleashing efficiency and innovation at scale.

Why DATAROCKiT™?

DATAROCKiT™ redefines how enterprises modernize their data infrastructure—securely, efficiently, and at hyperscale.

-  **Fastest mainframe-to-cloud transformation**
-  **Unmatched security and compliance**
-  **Scalable for enterprise growth**
-  *Freeing data to do the most-good, fast*

Experience the future of data with DATAROCKiT™. Let's ROCKiT your data transformation!

Contact Us Today:  **Support:** support@datarockit.com or  **Visit:** datarockit.com
