Rocket software

Rocket®
Enterprise Server

(formerly a Micro Focus® product)

Organizations face constant pressure to deliver innovation, improve efficiency, and maximize the value within their mainframe applications — all while managing costs and maintaining quality of service. Moving mainframe workloads to alternative platforms, including the cloud and containers, is a safe, proven, and cost efficient way to modernize business critical workloads and support future innovation, market growth, and expansion into new geographies.

Business Challenge

The digital era has transformed the organization's relationship with IT. Rising demand for more significant change, at greater pace, has put IT under pressure to become more nimble and customer-focused.

At the same time, new business drivers such as reaching new geographies or markets, supporting hybrid infrastructures that include the cloud, and cost reduction or containment are forcing CIOs with business-critical mainframe applications to re-examine the right blend of platform deployment strategy.

But rapid change can be expensive, and risky. To avoid the high failure rates of "rip and replace" IT projects, organizations can accelerate their digital transformation journeys by reusing unique and business-critical core applications and data and deploying these onto alternative infrastructures as part of a modernization journey.

The key to deploying tried and trusted mainframe workload onto alternative platforms is to initially minimize the change to avoid unnecessary risk while moving to an environment that allows you to modernize the applications themselves and increase the pace at which change can be delivered. The benefits are compelling, but are unlikely to be realized unless the underlying technology can:

Take advantage of low-cost scale-out infrastructure to deliver the performance and transaction throughput required by even the most complex of business applications.

Support Continuous Operations to meet the Reliability, Availability, and Serviceability (RAS) expectations of the business.

Fully integrate with the enterprise securityinfrastructure to provide the right level of application and system security.

Enable IT to proactively monitor and manage the health of the systems in production.

Access mainframe transactions and data that must remain on the mainframe.

Provide a flexible architecture that enables IT to respond rapidly to new business demands or peaks in capacity.

Rocket® Enterprise Server at a Glance

Take advantage of low cost commodity scale out hardware to provide production level application Performance, Reliability, Availability, and Serviceability (RAS).

Flexibility to exploit new markets and geographies by deploying existing mainframe applications from a single code base onto alternate platforms with little or no mainframe operations experience.

Deploy mainframe applications to the latest Linux®, Microsoft® Windows® and UNIX® operating systems as part of your mainframe modernization journey.

Deliver equivalent quality of service whilst reducing costs by as much as 90%.

Dynamically respond to changing business demand using Cloud Services and/or Kubernetes® Orchestrated Containers.

Modernize mainframe applications by keeping tried and trusted business functionality and exposing this through services or integrating this with .NET, Java®, and Cloud technologies.

Product Highlights

Rocket® Enterprise Server* provides a mainframe compatible, high performance and scalable deployment engine for moving IBM® mainframe applications to distributed systems or across cloud infrastructures. It delivers a batch execution and transaction environment that provides compatibility with COBOL, IBM PL/I®, IBM® JCL® batch jobs, web services, and common batch utilities including SORT. For IBM® CICS®

and IMS TM transactions, Enterprise Server offers an alternate solution that provides compatibility for applications originally written for the IBM environment. Additionally, it includes support for IMS DB, mainframe data file formats and the infrastructure to support the integration of these applications with technologies such as .NET, J2EE, or SOA to support an application modernization strategy.
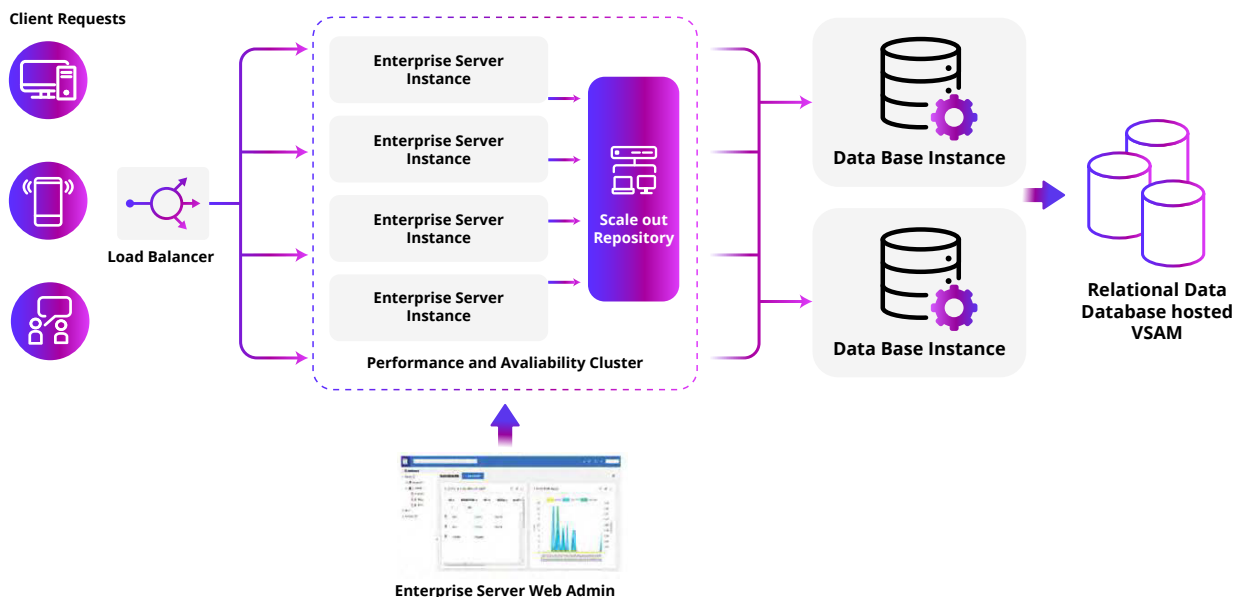

Fig 1. Rocket Enterprise Server Scale Out Architecture Diagram.

Hundreds of customers worldwide have taken advantage of Rocket Enterprise Server to successfully deploy applications on to the latest distributed, virtual and cloud platforms delivering a fast return on investment and enabling the enterprise to transform its mainframe applications to fit its business strategy.

The other products in the Rocket Enterprise Suite* are Rocket Enterprise Developer* and Rocket Enterprise Analyzer* which support the rapid development and modernization of zSystems® applications. This enables organizations to understand, develop, verify and then deploy mainframe applications to the mainframe and/or Rocket Enterprise Server on a distributed or Cloud environment.
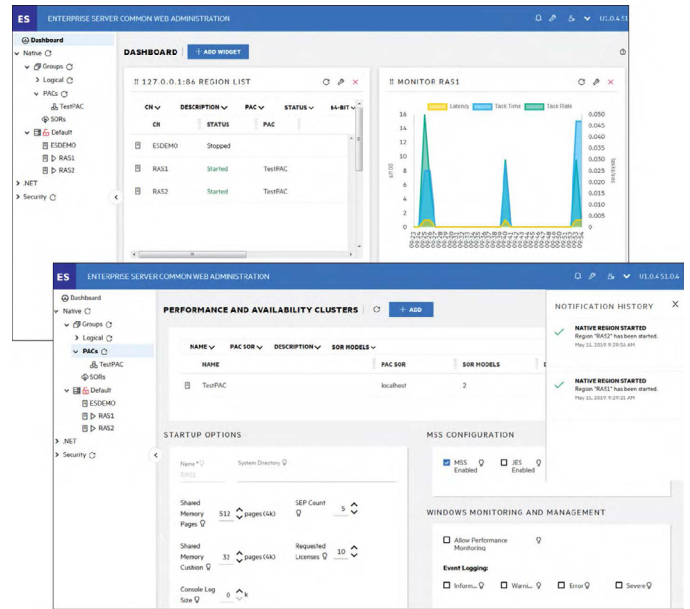

Fig 2. Rocket Enterprise Server Web Administration for managing Enterprise Server resources.

Key Benefits

Flexibility

Respond to business requirements to deploy mainframe applications and data to commodity platforms to enter new markets faster or to meet regulatory compliance that dictates customer data must be kept within geographic boundaries.

Security

Integrate with your enterprise security infrastructure to provide the right level of application and system security whilst utilizing mainframe compatible security models for authentication and authorization.

Reduction of operating costs by up to 90%

Exploit the price and performance benefit of low-cost infrastructure to reduce annual operating costs or to manage or reduce MIPS growth on z/OS®.

Scalable Performance

Take advantage of scale up and scale out architectures offered by the Cloud and Kubernetes to deliver the performance and transaction throughput required to meet business demands or peaks in capacity.

Continuous Availability

Meet the Reliability, Availability, and Serviceability (RAS) expectations for business-critical applications whilst integrating into your enterprise service operations platform.

Resolution of skills concerns

Applications operating under Rocket Enterprise Server are managed and maintained through a standard Web UI and do not require mainframe operating experience. With integration points to common operations management or open source tooling, Rocket Enterprise Server workloads can be operated as part of an enterprise operations management policy.

Mainframe modernization

Complete infrastructure modernization projects faster, as applications can be moved to alternative platforms with minimal change and lower risk. Proven business functions can then be exposed and executed as services or integrated with architectures such as .NET and the JVM.

High-performance Application Deployment Environment providing:

- Rocket Visual COBOL* and PL/I compatible run time support with dynamic debugging and diagnostics.

- Job Execution System (JES) engine to support submission, prioritization, and execution of batch initiators, with support for REXX and key IBM utilities such as DFSORT, ICEGENER, IDCAMS, IEBGENER and IKJEFT01.

- Ability to update individual executables in realtime

- Built-in administration, diagnostics, and monitoring

- ESCWA JSON API to support integration with third-party operations management tools

- Full support for applications running in either EBCDIC or ASCII

- Applications written for IBM CICS and IMS TM can be executed in a compatible environment within Enterprise Server

- Support for service enabling COBOL transactions through JSON WEB Services. For IBM CICS transactions, Enterprise Server provides an alternative solution that enables applications originally developed for the IBM environment to be service enabled through JSON web services

Fig 3. Production Data File Editor for VSAM/ QSAM Formats.

Scale-Out "Sysplex-Like" Architecture

- Applications can be deployed onto multiple Rocket Enterprise Server regions that can be managed as a single image and scaled out on-premises, in cloud instances, or in containers to support predictable application performance and system throughout.

- Multiple instances of the deployment engine remove single points of application failure. One Rocket Enterprise Server instance failing will not interrupt business continuity with capacity being shared with other regions whilst new instances are automatically started using industry standard functionality like Kubernetes.

- Easier operational maintenance and serviceability of active systems with Performance and Availability Clusters that allow participating Rocket Enterprise Server regions to operate and be managed in concert.

Web Interface for Administering and Configuring Enterprise Regions

- Single Web UI for managing all Rocket Enterprise Server assets regardless of where they reside in the hybrid infrastructure.

- Exposed admin functions through JSON services ensures applications deployed under Rocket Enterprise Server can be operated as part of an enterprise operations management policy.

- Simplifies system administration when managing Performance and Availability Clusters and shared Scale Out Repositories including auto discovery of members for Kubernetes deployments.
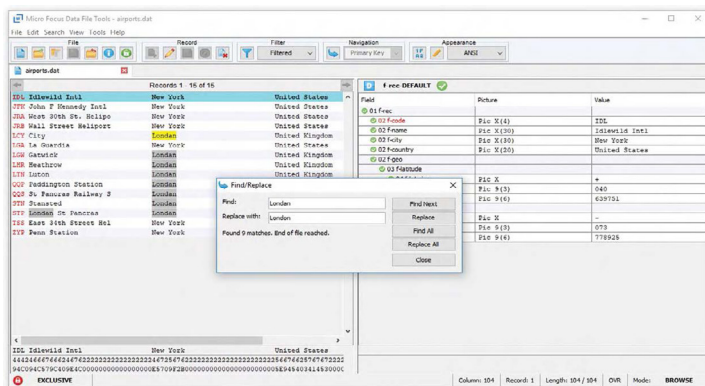
Comprehensive Data Access Capabilities

- Full file handler support for mainframe VSAM and QSAM file types, Partitioned Datasets (PDSs) and Generation Data Groups (GDGs).

- Relational Database support including Microsoft® SQL Server®, IBM Db2® LUW, Oracle®, PostGres® and MySQL®.

- An IBM IMS DL/I compatible database to replatform IMS-DB applications without updating data model or application code.

- Remote access to mainframe data during gradual workload redistribution projectsvia any popular third-party middleware such as Microsoft BizTalk® and IBM Db2 Connect.

- Data File Editor for secure file browsing and editing with copy/cut/paste, find/replace and content filtering. Supports in place update or creation of a new version.

High Availability Option for Mainframe Data File Replication

- VSAM and QSAM data files can be hosted in a relational database which provides data transactionality, replication, and high availability without changing any of the underlying COBOL and PL/I application logic.

- Support is provided for PostGres, MS SQLServer, IBM Db2 and Oracle on Linux and Windows.

- Tooling supports the automatic creation of database table structures and loading and unloading of data files.

- Data Files can be moved incrementally with simple configuration options to support a transition of datasets to an RDBMS.

Host Db2 Run Time Compatibility Options to Minimize Application Change

- Host Compatability Option provides runtime support to minimise SQL updates when re-platforming Db2 based applications to the target Relational Database. Supported database targets are:

    Microsoft SQL Server

    IBM Db2 LUW

    PostgreSQL (EAP)

Flexible and Comprehensive Security

- Support for a RACF® compatible securitycapability, to enable the reuse of existing mainframe security rules for authentication and application-level authorization.

- Support for Long User Name and Password.

- Support for TLS 1.3.

- Multi-factor authentication through NETIQ® Advanced Authentication.

- Secrets Vault to support storage passwords or sensitive information using a common facility to encrypt data using OpenSSL® crypto functions.

System Requirements and Platform Support

Java

- Adoptium® OpenJDK® Temurin® 11, 17, 21

- Oracle Java 17

Java Application Servers

- Apache® Tomcat® 10.1

- JBOSS® EAP 7.4

- Oracle WebLogic® 12.2.x, 14.1.x

- IBM WebSphere® 8.5.5, 9

- IBM WebSphere® Liberty 22 and above

Database Support

- IBM Db2® LUW 11.1, 11.5

- Microsoft SQL Server 2016, 2017, 2019, 2022

- Microsoft Azure® SQL Database

- Microsoft Azure Managed Instance

- Oracle 19c, 21c

- PostgreSQL 13.x, 14.x, 15.x

- Amazon Aurora® for PostgreSQL 13.x, 14.x, 15.x

- Amazon RDS® for PostgreSQL 13.x, 14.x, 15.x

- MySQL 8

Redis

- 3.2 4,0 5.0 (Memurai® 1.0.10)

Oracle Coherence

- 14.1.1.0.0

Cross-Platform Deployment Environment for Mission-Critical Workloads

- VSAM and QSAM data files can be hosted in a relational database which provides data transactionality, replication, and high availability without changing any of the underlying COBOL and PL/I application logic.

- Wide range of Linux, UNIX and Windows platforms supported on premise, in the cloud or in Docker containers with an architecture to support modernization on 32 and 64-bit environments.

- Web services support with J2EE-compliant access to Java application servers.

- Connectivity to IBM CICS z/OS from Enterprise Server CICS-compatible systems operating on Linux, UNIX or Windows; CICS Inter-System Communication (ISC) including support for two-phase commit.

- Automation of common Rocket Enterprise Server functions through JSON Services and Integration with popular third-party products to provide Print, Job and Operations Management.

- Proven implementation methodology used by hundreds of customers to support the successful transition and production deployment of applications and data to the Rocket Enterprise Server platform.

- 24x7 access to an award-winning global product support organization.

Secured development and execution environment

Beginning with release 10.0, a basic security configuration is included with Enterprise Developer and Enterprise Server and enabled as part of product installation. This configuration requires users to authenticate to Enterprise Server, including Enterprise Server Common Web Administration (ESCWA), and be authorized to perform various actions.

For product reinstallations or upgrades, if security data already exists, default security will not be enabled. Your existing security definitions will be preserved.

For more information, please refer to the product documentation.

* Formerly Micro Focus products.

Platforms

Microsoft Windows®

- Windows 10, 11
- Windows Server® 2022

SUSE®

- 12 SP4 and above 64-bit only Intel®
- 15 64-bit only Intel

Red Hat®

- 7.x, 8.x, 9.x on Intel

Oracle® Linux

- Red Hat Compatible Kernel 8.x, 9.x
- Unbreakable Enterprise Kernel 8.x, 9.x

IBM AIX®

- 7.2, 7.3

Ubuntu®

- 20.x, 22.x

Rocky® Linux

- 9.x

AWS®

Linux

- 2, 2023

Kubernetes

- 1.15

Available for use on premises or on all major cloud providers including AWS®, Azure and GCP.

Rocket®software

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