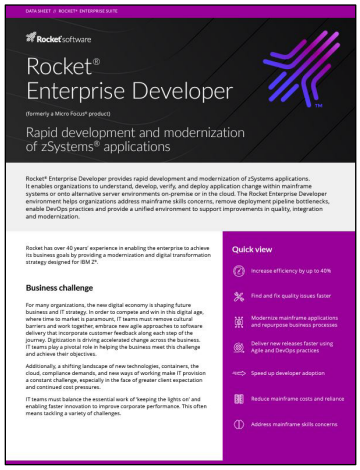

Rocket Enterprise Developer

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Rocket® software

Rocket® Enterprise Developer

(formerly a Micro Focus® product)

Rapid development and modernization of zSystems® applications

Rocket® Enterprise Developer provides rapid development and modernization of zSystems applications. It enables organizations to understand, develop, verify, and deploy application change within mainframe systems or onto alternative server environments on-premise or in the cloud. The Rocket Enterprise Developer environment helps organizations address mainframe skills concerns, remove deployment pipeline bottlenecks, enable DevOps practices and provide a unified environment to support improvements in quality, integration and modernization.

Rocket has over 40 years' experience in enabling the enterprise to achieve its business goals by providing a modernization and digital transformation strategy designed for IBM Z®.

Business challenge

For many organizations, the new digital economy is shaping future business and IT strategy. In order to compete and win in this digital age, where time to market is paramount, IT teams must remove cultural barriers and work together, embrace new agile approaches to software delivery that incorporate customer feedback along each step of the journey. Digitization is driving accelerated change across the business. IT teams play a pivotal role in helping the business meet this challenge and achieve their objectives.

Additionally, a shifting landscape of new technologies, containers, the cloud, compliance demands, and new ways of working make IT provision a constant challenge, especially in the face of greater client expectation and continued cost pressures.

IT teams must balance the essential work of 'keeping the lights on' and enabling faster innovation to improve corporate performance. This often means tackling a variety of challenges.

Quick view

- Increase efficiency by up to 40%
- Find and fix quality issues faster
- Modernize mainframe applications and repurpose business processes
- Deliver new releases faster using Agile and DevOps practices
- Speed up developer adoption
- Reduce mainframe costs and reliance
- Address mainframe skills concerns

Efficiency
Development output needs to accelerate and meet the speed of business change.

Process
Software delivery practices have evolved to support a more iterative, collaborative and frequent release cycle — mainframe development needs to keep pace.

Modernization
Ensuring that core applications and data are accessible through any web or mobile device and adaptable to evolving IT trends and technologies.

Skills
Recruiting and onboarding the right skills for today's IT estate must align to future business strategy.

Quality
Demand to shift left and enable early detection of issues during the software development process.

Resource
Managing complex application releases, across crossfunctional development teams requires teams to collaborate using different tools and practices.

Integration
Enterprise IT systems no longer consist of only mainframe components but now include composite applications that reside on the mainframe, distributed, virtual and cloud environments.

How Rocket Enterprise Developer can help

Rocket Enterprise Developer provides a simple and proven approach to modernize mainframe applications and processes. It provides modern and powerful development tools in an integrated development environment (IDE) for both Eclipse and Microsoft Visual Studio. Using Rocket Enterprise Developer organizations can develop and test application both on and off the mainframe using a common toolset regardless of where application is deployed — on the mainframe, on distributed platforms, or into the cloud.

Rocket Enterprise Developer supports COBOL, PL/I, IBM® Assembler, CICS®, IMS®-TM, JCL, Db2®, IMSDB, z/OS® file formats and the common batch utilities, including SORT. As a result of this compatibility, developers have the choice from a single IDE to develop directly on the mainframe and to move analysis, edit, compile, and debug tasks: all necessary to maintain and improve core online and batch applications, to a Windows environment on-premises, or in the cloud.

Rocket Enterprise Developer is part of the Rocket Enterprise Suite — a comprehensive and integrated toolset designed to help IT teams through their mainframe modernization journey. It includes Rocket® Enterprise Developer*, Rocket® Enterprise Test Server*, Rocket® Enterprise Server*, and Rocket® Enterprise Server for .NET*.

This solution enables customers to fully understand their application inventory, adopt Rocket® Enterprise DevOps* practices to streamline the development, configuration management and testing of mainframe applications, and enable greater choice and flexibility for the deployment of mainframe application workload to new platforms.

Key benefits

Increase efficiency by up to 40%

Dramatically increase the speed of development and delivery of change, by integrating all phases of the application development lifecycle, from agile planning through analysis, development, compilation, unit testing and debugging.

Find and fix quality issues faster

Shift left by ensuring application quality through a full function unit test environment where developers can thoroughly validate code changes without resource conflict or reliance on the mainframe. Powerful debugging and diagnostics ensure that stubborn runtime issues can be found and resolved quickly.

Modernize mainframe applications

To ensure critical business functions and the value they provide can be reused and enhanced Rocket Enterprise Developer includes tools to allow you to easily extract application code into reusable components, to service enable applications through REST APIs, to integrate into .NET or on the JVM, and to deploy into the cloud or containers.

Deliver new releases faster using Agile and DevOps practices

Teams looking to adopt modern software delivery practices such as Agile or Scrum as part of a DevOps initiative can integrate Rocket Enterprise Developer into existing toolchains and processes to foster a culture of collaboration between development and testing teams across the business.

Address mainframe skills concern

Instantly reduce the skills gap between mainframe COBOL and Java or C# developers by offering a collaborative and modern development environment built around Eclipse or Visual Studio. Recent graduates or developers new to working with COBOL or PL/I can quickly and easily adapt to the language and get up to speed faster.

Speed up developer adoption

Through easy customization, integrating modern development tooling directly into mainframe source management systems and familiar processes eases the transition to a new development environment.

Reduce mainframe costs and reliance

The Windows based Rocket Enterprise Developer toolset enables developers to spend as much as 90% of their time away from the mainframe, realizing significant cost savings with no wait times or resource contention.

Flexibility

Rocket Enterprise Developer can be deployed onto an on-premises Windows environment, in a virtual machine instance, via Citrix or into the cloud giving you the flexibility to support different development teams, in house, near shore and offshore.

Key features

Powerful integrated development environment

A complete mainframe application modernization, development, and maintenance environment available for leading industry standard Microsoft Visual Studio or Eclipse based IDEs.

Full application development lifecycle support on the desktop

From initial application design through analysis, development, compilation, unit testing and debugging. Support for COBOL and PL/I includes:

- Advanced editor capabilities such as instant feedback on syntax errors, content assist, syntax colorization and outline view, for faster source navigation to enable developers to quickly and securely execute changes in mainframe applications.
- Instantaneous code compilation offers considerable time savings, as compiles happen on the local workstation. Close integration with the editor means faster error resolution.
- Improved testing through sophisticated visual debugging of mainframe applications for full control during test execution scenarios.
- Unit and functional test capabilities with a local execution engine and 3270 emulator that supports code coverage and performance statistics and provides a COBOL unit test framework.

Code analysis and standards checking

Integrated directly into the IDE at point of change means developers can make changes to existing programs with more confidence. Support includes:

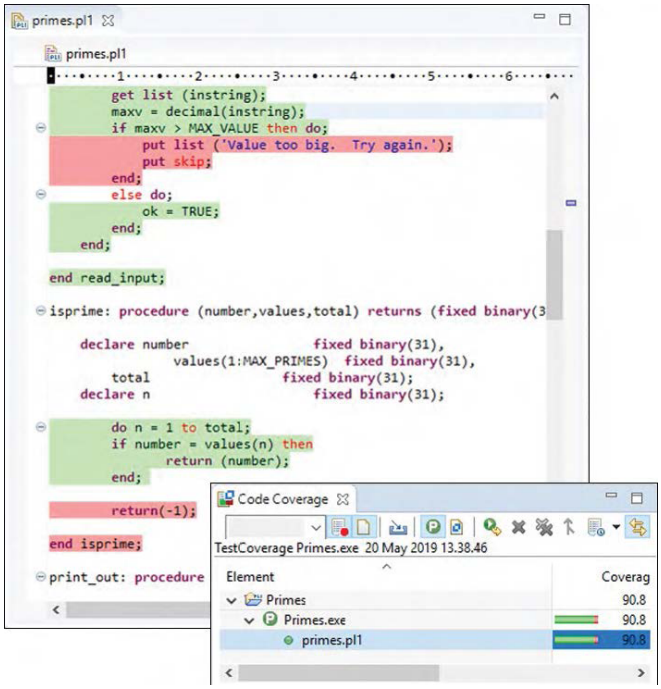

Fig 1. Code Coverage reporting for PL/I

- Program and Data Flow graphs.
- Get references command to identify any programs, screens, data or other objects that might be impacted (upstream and down) by an application change.
- Standards checking rules to easily verify that the developed code meets site specific standards before check-in.
- Predefined queries that can be easily modified and extended as well as being run as an automated part of a Continuous Integration (CI) process.
- Access to an enterprise wide application analysis reposition through an additional integrated web UI client.

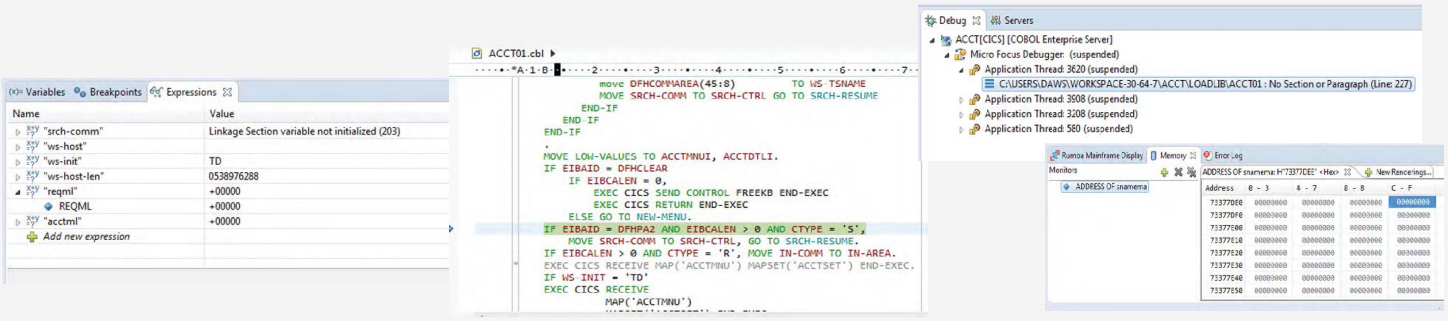

Fig 2. Advanced visual editing and debugging capabilities

Visual Studio Code Rocket Enterprise Plugin for fast and simple editing of mainframe sources including COBOL, PL/I, JCL and Assembler with key features like compile and debug available when Rocket Enterprise Developer is installed.

Mainframe integration and remote development from a single Eclipse on Windows based IDE enables developers to:

- Browse MVS mainframe datasets, submit jobs and view the system output.
- Navigate through the UNIX subsystem (USS) accessing functions like edit, browse, rename, delete and copy/paste across systems.
- Take advantage of analysis and smart COBOL, PL/I and JCL edit tooling for fast syntax error detection and content assist when editing source modules on the host. This includes those that use mainframe precompilers.
- Submit jobs for mainframe compilation with integrated error output to quickly view and resolve issues.
- Start debug and unit test sessions directly on the mainframe.

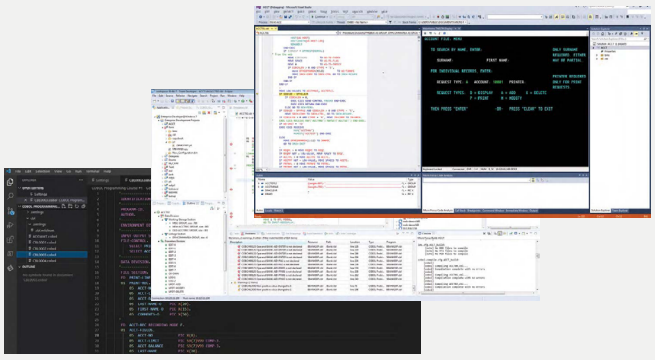

Fig 3. Industry Standard IDEs including VSCode

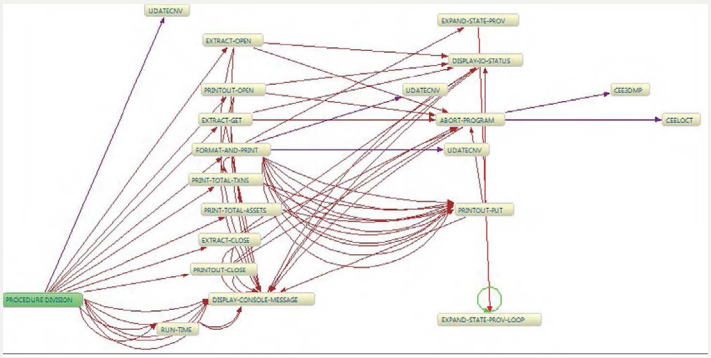

Fig 4. Program control graphs for easier application understanding

Easy Eclipse customization

Typical development processes involve a wide range of tools such as source control, agile planning, test and data management. Ready and easy access from a single IDE is a must for fast acceptance and adoption. Rocket Enterprise Developer for Eclipse on Windows provides a simple and highly customizable approach to:

- Quickly integrate mainframe and distributed tools that have REST APIs directly into Eclipse without developing or maintaining Eclipse JAVA plugins.
- Create predefined customizations to support different development processes that can be managed and deployed centrally.
- Improve developer acceptance and realize productivity gains.

Extensive mainframe data support

For editing, accessing and transforming different mainframe data formats. Developers can access:

- Their own local mainframe QSAM and VSAM datasets, Generation Data Groups (GDGs), IMSDB and Db2 database emulations for testing.
- Integration directly into datasets and databases residing on the mainframe.
- Tools to simplify moving mainframe relational data to alternative databases such as Microsoft SQL Server, Oracle, Postgres and IBM Db2 on Linux, UNIX and Windows.
- Powerful graphical data record editors that enables field level display, edit, cut/copy/paste, find/replace and filter criteria, making it easy to identify and edit specific data records or create cut down data files for testing.
- Support for moving mainframe QSAM and VSAM file formats to a relational database without changing application logic.

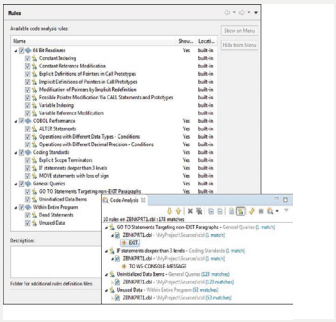

Fig 5. Code Analysis and standards checking directly from the IDE

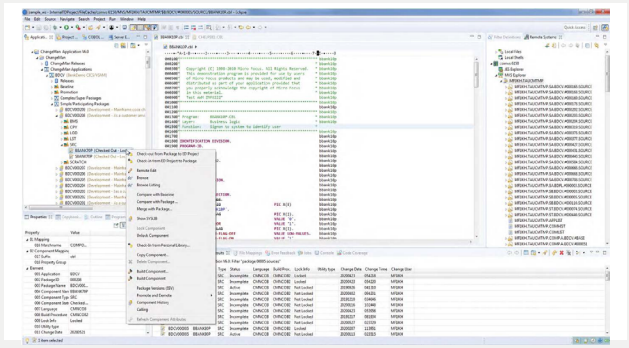

Fig 6. Integration into ChangeMan ZMF

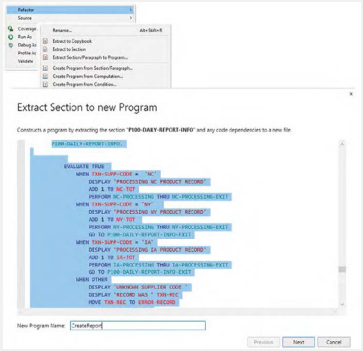

Fig 7. Code Slicing tools for automatically extracting re-usable components

Mainframe source control integration**

Including Rocket ChangeMan ZMF*, CA Endevor and IBM Software Configuration and Library Manager (SCLM). Developers have full access to tools and projects on and off the mainframe, from a single development environment. This enables them to:

- Navigate Source libraries and packages with a graphical tree view.
- Review software components, and version and dependencies lists.
- Get access to all available versions of a source member.
- Edit members directly, or checkout to a partitioned data set or local Rocket Enterprise Developer project off the mainframe.

Effective team-working and collaboration

Application workgrouping enables developers to share source files, data and program executables. This ensures secure, centralized team and application management, and greatly simplifies the task of setting up a shared multiuser development environment.

Comprehensive mainframe compatibility

To enable mainframe applications to be developed and tested on Windows without reliance on the mainframe. Support is provided for:

- Multiple IBM mainframe COBOL dialects including support for Rocket Enterprise COBOL* support 6.2, 6,3 and 6.4 including User Defined Functions.
- Compatibility with IBM Enterprise PL/I as well as ANSI PL/I.
- IBM HL Assembler edit, compile, debug and runtime execution.
- Online CICS or IMS TM application development including a GUI BMS screen painter and BMS and MFS macro compilers.
- Support for IBM CICS JSON Web Services as either a service provider or requester.
- Batch application and JCL support including remote job submission on the mainframe.

** Integration to CA Endevor, Rocket ChangeMan and IBM SCLM provided through add-on Rocket Enterprise Developer models for Eclipse on Windows only.

What our customers have to say

"This has given us flexibility, development agility, increased team collaboration, and ultimately, a higher quality product and service for our customers."

CIO
Life insurance company

Efficient application modernization

Tools and processes to support application modernization, whether these are:

- Code slicing facilities that enable developers to create new, reusable components by automatically separating business logic and computations into new callable objects that can be tested and deployed in new ways.
- Capabilities to extend applications through J2EE, COM, web services and SOA.
- Development of applications targeted for the .NET or JVM environments.

Easy transition for Mainframe Express users

Existing Mainframe Express and AppMaster Builder (AMB) users can now more easily move across to Rocket Enterprise Developer, while preserving many of the assets and project structures. The product provides the flexibility to run Rocket Enterprise Developer sidebyside with the existing OpenText product IDEs, to support a phased transition at the customer's own pace.

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.

Product options

The Rocket Enterprise Developer* product range to meet your development requirements:

Rocket Enterprise Developer for zSystems

For developers who want the flexibility to develop and test applications both on and off the mainframe, giving them freedom to choose how and where they develop and modernize applications.

Rocket Enterprise Developer for Z comprises the following:

Rocket Enterprise Developer

A full function mainframe development environment running under Windows. With the choice of Visual Studio or Eclipse developers have all the tools to develop, compile, debug, test and modernize applications disconnected from the mainframe. This means no wait times or resource contention. Applications can be deployed back to the mainframe or modernized for deployment on distributed, virtual or cloud platforms.

Rocket Enterprise Developer Connect

An Eclipse based development environment that enables developers to take advantage of modern development tooling integrated directly into current mainframe tools and processes. The product's easy customization offers a fast transition to new tooling.

Rocket Enterprise Developer Build Tools

A separately installable component without an IDE that is available with Rocket Enterprise Developer and Rocket Enterprise Developer for Z. It provides an application build environment that can be integrated into automated development pipelines and can be deployed into a container.

System Requirements and Platform Support

Integrated Development Environments

- Only Visual Studio 2022 supported
- Eclipse 4.28 (2023-06) shipped with product
- Eclipse on Linux support on Red Hat, SUSE, AWS Linux 2 and Ubuntu x86 distributions only
- Adoptium's OpenJDK Temurin 11, 17 and 21

Database Support

- Compatibility with IBM DB2 for z/OS V9, V10, V11 & V12
- IBM DB2 LUW 10.5 no longer supported
- Microsoft SQL Server 2022 support added, 2016, 2017, 2019, Azure DB and MI.
- Oracle 19c
- Postgres 11.x, 12.x, and 13.x
- Amazon Aurora for PostgreSQL 13.x, 14.x, 15.x supported
- Amazon RDS for PosgreSQL 13.x, 14.x, 15.x supported
- MYSQL 5.7 support removed
- EDB PostgreSQL 13.x,14.x,15.x supported
- GDG PostgreSQL 13.x, 14.x, 15.x support added
- Available for use on premises or on all major cloud providers including AWS, Azure and GCP.

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Platforms

Microsoft Windows
- Windows 10, 11
  Windows Server 2022

SUSE version 15
- 12 SP4 and above 64bit only Intel and System z
  SUSE 15 64-bit only on Intel and System z

Red Hat
- RedHat 8.x and 9.x on Intel

Oracle Linux
- 8.x, 9.x on Intel
  Red Hat Compatible Kernel
  Oracle Unbreakable Kernel

IBM AIX
- 7.2, 7. — 7.1 no longer supported

HPUX
- No longer supported

Rocky Linux
- 8 & 9 support added

Ubuntu
- Ubuntu 20.x and 22.x supported
  — 18.x no longer supported

Centos
- No longer supported

AWS Linux
- 2

Kubernetes
- 1.15

Docker Support for Ubuntu based Microsoft DevContainers
- Community Edition
  Windows Server 2016: CE 17.09.0-ce-win33
  Red Hat: CE 1.12.6

* formerly Micro Focus products

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