Rocket software

Rocket®
Enterprise Test Server

(formerly a Micro Focus® product)

Many organizations rely on IBM® mainframe applications to run critical parts of their business. As the enterprise and customers demand more and better services, mainframe applications, developed over decades, must undergo continual change and testing in order to deliver quality core business services. Scaling mainframe application testing to meet this demand can be challenging and costly for the enterprise.

Business Challenge

But it's not just services which are in demand. Businesses expect to maintain a positive reputation by avoiding damage from high profile IT incidents. Rapidly delivering high volumes of application change while maintaining quality requires sufficient test resources. For many mainframe organizations, this is a significant issue.

In a 24x7 digital economy, mainframe production systems are in higher demand than ever, so for many organizations mainframe testing resources are scarce, and difficult to schedule. These testing resources become a significant bottleneck in delivering application change. The choice becomes restricting testing, which compromises application quality, versus having a rigorous test schedule that delivers late, compromising business advantage. Neither option is acceptable. There needs to be another way.

Operating System Requirements

• Windows Server 2022

• Windows 10

• Windows 11

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

Quick View

Enterprise Test Server is an IBM® mainframe application test environment on Windows running on-premises, in a Docker instance or in the cloud.

It enables IT organizations to test mainframe application change on scalable, low-cost commodity infrastructure. Enterprise Test Server expands test capacity to scale to meet the delivery timelines and quality standards driven by today's business requirements.

With Enterprise Test Server you can:

Leverage lowcost virtualized hardware on-premises, or in the cloud for continuous application testing.

Eliminate capacity restrictions and reduce cost around core mainframe testing cycles.

Scale up test capacity giving delivery teams access to test execution environments when they need them.

Become more agile and reduce mainframe testing cycles through Continuous Integration and test automation.

Product Overview

Enterprise Test Server is a flexible mainframe application execution environment that directly addresses the issue of mainframe testing resource availability. A low-cost testing environment that runs on virtualized hardware either on commodity servers, in a Docker instance or in the cloud, Enterprise Test Server executes applications in the same way as the mainframe enabling complete and accurate testing.

Enterprise Test Server supports IBM® COBOL, IBM® PL/I, Assembler, CICS®, IMSTM, JCL, Db2®, IMSDB, z/OS® file formats and standard mainframe utilities. Close integration to mainframe SCCM systems and distributed version control systems means application source code and test data can be built automatically on Windows. The application is then executed within the Enterprise Test Server environment where it accesses the datasets locally to maximize performance. Data or application logic that

needs to remain on the mainframe, such as called sub-routines without source code, can be accessed directly from within Enterprise Test Server using mainframe client access tools.

When used with Continuous Integration (CI) this solution exponentially expands test capacity and enables fast, scalable testing to meet delivery timelines driven by business demands. For teams developing composite applications that rely on mainframe services, Enterprise Test Server can provide access to mainframe test regions when they are needed.

With little or no reliance on mainframe processing capacity, the Enterprise Test Server environment offers a flexible, always on, low-cost environment for mainframe developers, test teams, quality assurance engineers, end users, and Java or .NET programmers.

Key Benefits

Faster time to market for application change

- Shorten test cycles and find issues faster.
- Scale up test capacity quickly to meet business driven deadlines or change.
- Quickly provision Windows based mainframe test capacity to business users and developers integrating composite applications with the mainframe.

Increase test capacity without consuming additional mainframe resource

- Scale up test capacity on a low cost commodity platform, in a container or using a Public Cloud infrastructure.
- Reduce mainframe test MIPS consumption by moving application testing to a lower cost distributed, virtual or cloud platform.

Improve application quality

- Introduce Continuous Integration and test automation to reduce rework and find issues earlier in the development cycle.
- Improve quality by accomplishing more testing in shorter time frames.
- Accelerate innovation by providing Java or .NET developers with a more responsive and accessible environment to perform testing.

Feature Overview

Enterprise Test Server includes a comprehensive set of tools and capabilities to enable mainframe applications to execute unchanged on Enterprise Test Server and will behave in the same way as it does on the mainframe. This includes support for:

- Batch and Online (CICS or IMS TM) applications accessing Db2 and IMS databases or VSAM files.

- Accessing COBOL and PL/I applications via 3270 BMS or MFS screens.

- CICS Web Services allowing CICS Transactions to be exposed as service providers or requestors for end-to-end testing using SOAP or JSON.

- Testing of Java or .NET applications using facilities like CICS Transaction Gateway (CTG), EZASOKETS, IMS Connect or MQ Series to connect to back end services.

- Mainframe Assembler applications or sub-routines which can be assembled and linked for execution within the Enterprise Test Server Environment.

- Easily managed using Enterprise Test Server Common Web Administration (ESCWA).

- ESCWA JSON API enables the automatic provisioning and configuration of test regions.

Integration into Mainframe Resources and Sub-Systems

Enterprise Test Server supports direct mainframe access capabilities, so load modules and data on the mainframe can be accessed and tested within the test server environment. This includes:

Flexibility to remotely execute batch steps or sub programs running on the mainframe with results being accessible to the application executing under Enterprise Test Server.

Seamless and secure access to mainframe data resources (Data Files, Db2 and IMS DB) from programs executing under Enterprise Test Server.

Local test Data Access and Management on Windows

Enterprise Test Server includes a range of tools and capabilities to enable applications to run against test data on Windows rather than the mainframe. Key capabilities are:

- A Mainframe compatible file system supporting VSAM file types (KSDS, RRDS and ESDS), Partitioned Datasets (PDSs), and Generation Dataset Groups (GDGs).

- Mainframe compatible Db2 and IMS DB database support running under Windows.

- Powerful GUI Data file and database editors enable developers to define data structures and easily update and compare data when forcing test conditions or scenarios.

- Full EBCDIC character set support to ensure compatibility with the mainframe environment.
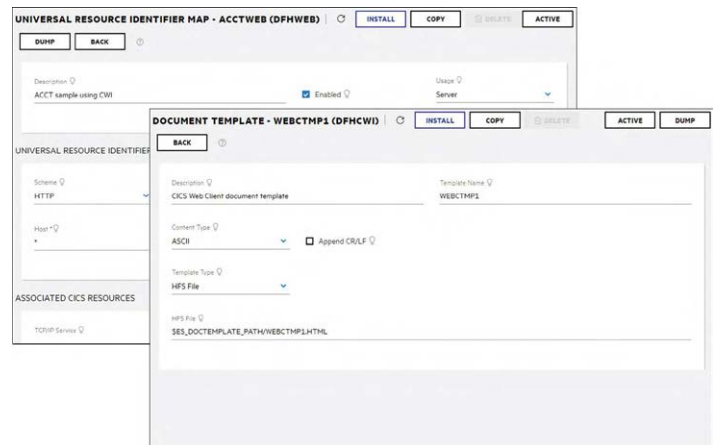

Fig 1. ESCWA UI simplifies configuration tasks.

Continuous Integration (CI) for Your Mainframe on-premises, in a Docker Instance or in the Cloud

Increase agility and quality through automation and Continuous Integration. Integrated with Enterprise Developer Build Tools*, Enterprise Test Server can fully participate into a CI Pipeline using tools like Jenkins or Hudson to allow:

- Synchronization of sources and artefacts within mainframe based SCCM tools.

- Automated build and deploy of mainframe modules being tested to Enterprise Test Server instances running on-premises, in a container or on the cloud.

- Fast automatic provisioning of test environments with Enterprise Test Server admin functions exposed through JSON APIs and test region configurations maintained in XML.

- Test automation, code coverage and profiles of tests running in active Enterprise Test Server regions.

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.

Extending Off Mainframe Testing

Once configured, Enterprise Test Server can be used to support many types of testing while removing or significantly reducing the requirement to use additional mainframe resources:

- Automated or manual Regression and functional testing can be conducted against applications running in a Test Server instance.

- Most user accept testing (UAT) can be conducted against the applications running under Enterprise Test Server so end-user input even when prototyping new functionality can be received earlier in the development cycle.

- Distributed .NET or Java programmers dependent on mainframe services can perform unit testing against a the mainframe application without having to rely on mainframe resources or a mainframe test harness.
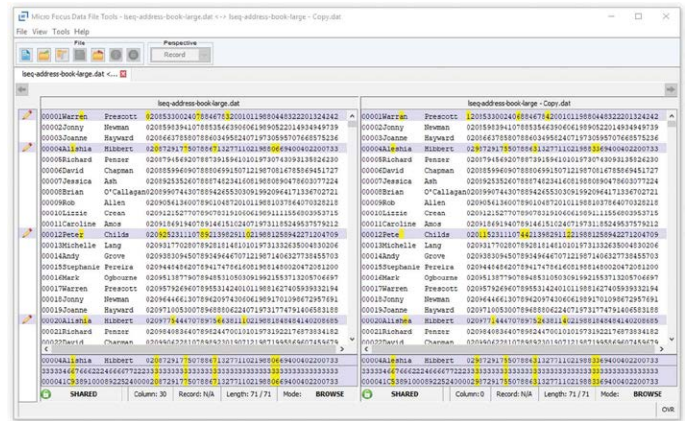

Fig 2. Full Function Data File Editor — Supports Comparing Datasets.