



## Testing and debugging for z/OS

Deploy new application functionality with unprecedented speed

TraceMaster is an interactive testing and debugging solution for z/OS applications

**Using an interactive test session to trace code is a highly effective way of diagnosing the cause of a problem during development or when diagnosing production problems. TraceMaster is an interactive testing and debugging solution for z/OS applications. Through the rapid identification of program errors Tracemaster delivers the following benefits:**

- Greater competitive advantage through shortened development timescales, which allow new application code to be introduced more quickly
- Significant improvements in application code quality, reliability and performance
- Faster error resolution, leading to increased developer productivity
- Fully audited test results, allowing developers and managers to monitor and track back through testing sessions
- Fast, efficient and granular control of program execution while tracing code to determine the root cause of a problem
- Flexible access through native, browser and Eclipse user interfaces

### Code tracing and analysis

TraceMaster significantly reduces the time and accompanying costs of application development by rapidly identifying the causes of program errors hidden within thousands of lines of code.

TraceMaster provides a powerful means of augmenting developer productivity while accelerating the deployment of new applications. Developers can analyze large volumes of code quickly and easily, allowing insight into hidden logic errors and program abends.

Granular control of program execution is given to developers while tracing code to determine the cause of a problem.

With drill-down capability, TraceMaster allows developers to:

- Drop into lower level programs
- Include and exclude programs from debugging sessions
- Step through code on a line-by-line basis
- Set breakpoints – conditionally and unconditionally – allowing the program to run until the breakpoint criteria are met
- View and change variable values
- Control code execution at the statement and storage content level

TraceMaster synchronizes source program display with execution and allows program testers to view and identify problems as they occur. COBOL, PL/I and Assembler program languages are all supported.

Macro 4's integrated suite for fault analysis and testing on z/OS:

#### DumpMaster

Fault analysis and recovery

#### InSync®

Data management and manipulation

#### TraceMaster

Interactive testing and debugging

#### TraceMaster CodeTrack

CICS code path analysis and storage violation detection

## Intuitive control

A highly intuitive interface allows program testers to manipulate large volumes of code quickly and easily. Hidden logic errors and program abends can be rapidly traced and resolved.

Unlimited conditional and unconditional breakpoints allow users to control a tracing session at their desired pace. Powerful 'stop-on-condition/run until' facilities enable users to control and suspend program execution.

TraceMaster interprets the source listings to reuse breakpoints at paragraph/label levels unaffected by recompile in addition to simple statement line numbers. Furthermore, breakpoints can be saved and restored between sessions.

Tracing can be performed at the source statement or machine instruction level.

## Test session replay

Test session replay allows users to step back and forth throughout a program with complete flexibility, allowing them to target errors significantly faster and more accurately than by using traditional methods.

## Data control

Program variables may be monitored during the tracing session, even when switching between programs and subprograms.

Variables for the current statement are displayed automatically through the trace session. Other program variables may also be displayed and easily modified.

## Path coverage

Path coverage analysis enables programmers to analyze execution paths and identify coding inefficiencies. CICS path coverage analysis can be performed using TraceMaster CodeTrack.

## Audit test results

TraceMaster provides full auditing capability. Program developers and managers can monitor and trace back through the results and steps taken during a test session, providing greater alignment with your quality assurance requirements.

## Tracing environments

Tracing environments include:

- Batch Program (foreground and background)
- Db2 Stored Procedures
- CICS
- IMS/BMP
- IMS/BTS
- IMS/DC
- IMS/DLI

## Global source listing support

TraceMaster has extensive capabilities to access source listings wherever they reside within your organization, whether that be local to the production system or at a development site that is geographically remote.

TraceMaster will accept listings as output from compilers - there is no need to convert them to proprietary formats.

Support is provided for processing listings that are stored within proprietary source change management repositories.

## Intuitive user interfaces

TraceMaster offers its comprehensive testing and debugging functionality via fully configurable windows for native, browser and Eclipse interfaces, all of which are intuitive and easy to use.

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