IBM

Licensed Program Specifications

IBM Application Testing Collection for MVS/ESA Release 5.0 Program Number 5799-GBN

Application Testing Collection for MVS/ESA (ATC) is a set of testing tools that can be used independently or in an integrated manner to address testing requirements specific to the Year 2000 arena or for normal application development and maintenance testing activities.

ATC is designed to help address the challenge of performing and evaluating the results of Year 2000 testing. ATC can then be leveraged to enhance the overall quality of application development, enhancement, and maintenance testing long beyond the Year 2000. These tools help enable you to:

- Validate that you are testing code that has been impacted by changes made in the application
- Reduce the cycle time required to test your code
- Allow dynamic data aging and data conversion testing to occur and monitor changes in program variables during run time
- Provide an audit trail that has date/time stamped reports showing the results of the test efforts
- Raise the quality of the testing to help determine that all changed code has been tested.
- Automate many of the activities (capture, replay, comparison) involved with regression testing
- Perform regression tests on- or off-site using the captured data without replicating the production data environment

Highlights

Application Testing Collection for MVS/ESA supports applications under test in a variety of MVS environments and consists of the following tools:

Coverage Assistant (CA): A code coverage tool that reports the percentage of coverage of a test suite and the statements and branch conditions in the program that have not been exercised. No modifications to the source code or run-time environment are required in order to gather coverage information. An application can be measured by listing all source lines executed or by targeting the coverage to a select number of source lines or all lines affected by a set of specified variables.

Source Audit Assistant (SAA): A code comparison tool that compares source code or listings before and after conversion, identifying changes for audit purposes. The identified changed source can also be directed as input to other tools in the collection, such as Coverage Assistant's targeted coverage.

Distillation Assistant (DA): A data distillation tool that reduces a data set to the minimum size that provides test coverage that is equivalent to the test coverage provided by the original (larger) file.

Unit Test Assistant (UTA): A variable analysis tool that reads and logs variable values from a program during its execution for later examination. Also, any value entering or exiting an application from any source (i.e., data files, system calls, user inputs, etc.) can be incremented, decremented, or initialized to selected values at application run time. This is called *Data Warping*. In addition, the tool can also make copies of files with modified data values. This is called *File Warping*.

* CICS, DFSMS/MVS, IBM, IMS, MVS/ESA, OS/390, SP, and VisualAge are trademarks of the International Business Machines Corporation.

Automated Regression Testing Tool (ARTT): A capture and verification tool that records a baseline execution of your program and automatically compares it with a proof execution using real or previously captured input. ARTT allows testing with or without a production system, and its data conversion capability allows testing to continue when I/O and programs are in incompatible formats.

The major new features for Release 5.0 are:

ARTT support for CICS, DB2, and IMS

CA/DA/UTA can now apply breakpoints directly to load modules (in addition to the existing object module support)

CA targeted coverage's performance has been improved and a batch interface has been added

DBCS Support

Coverage Assistant, Distillation Assistant, and Unit Test Assistant support DBCS characters in the input compiler and assembler listings, and in identifiers and comments in the CA/DA/UTA control files. In addition, the COBOL LANGUAGE(JAPANESE) compile-time option is supported.

Source Audit Assistant supports DBCS characters in the input source/listings in the Comments and Declares filters for COBOL and assembler and with no filters enabled for COBOL, PL/I and assembler.

The Source Audit Assistant Postprocessor supports DBCS characters in the input compare file for COBOL and PL/I.

Specified Operating Environment

Year 2000 Readiness

This IBM Program, when used in accordance with its associated documentation, is capable of correctly processing, providing and/or receiving date data within and between the twentieth and twenty-first centuries, provided that all products (for example, hardware, software, and firmware) used with this IBM Program properly exchange accurate date data with it.

Required Hardware

Application Testing Collection for MVS/ESA runs on all MVS/ESA or OS/390 operating system capable hardware.

Programming Requirements:

Application Testing Collection for MVS/ESA was developed and tested in the following environments. These environments and newer releases support ATC. In addition, all IBM supported releases of OS/390 (5647-A01), DFSMS/MVS (5647-A01), TSO/E (5647-A01), ISPF for OS/390 (5647-A01), and Language Environment element of OS/390 (5647-A01) also support ATC.

MVS/ESA SP Version 5 Release 1 (5655-068 or 5655-069) with the following:

- DFSMS/MVS Version 1 Release 2 (5695-DF1)
- TSO/E Version 2 Release 5 (5685-025)
- ISPF Version 4 Release 2.1 (5655-042)
- Language Environment for MVS & VM Release 5 (5688-198)

MVS/ESA SP Version 5 Release 2.2 (5655-068 or 5655-069) with the following:

- DFSMS/MVS Version 1 Release 3 (5695-DF1)
- TSO/E Version 2 Release 5 (5685-025)
- ISPF Version 4 Release 2.1 (5655-042)
- Language Environment for MVS & VM Release 5 (5688-198)

OS/390 Version 2 Release 4 (5647-A01) with the following:

- DFSMS/MVS Version 1 Release 4 (5647-A01)
- TSO/E Version 2 Release 6 (5647-A01)
- ISPF for OS/390 Version 1 Release 3 (5647-A01)
- Language Environment element of OS/390 (5647-A01)

CA, DA, and UTA support applications under test in a variety of MVS environments such as batch, CICS, TSO/ISPF, IMS, DB/2, etc.

ARTT supports the following data environments:

QSAM and VSAM access methods invoked from batch programs in Capture, Real Replay, and Virtual Replay modes with Data Transformation and Date Rolling for all system levels listed as prerequisites

Static SQL Select, Fetch, Insert, Update, and Delete statements invoked from DSN programs in Capture and Virtual Replay modes with Data Transformation and Date Rolling for DB2 V4R1M0 and above

Dynamic SQL Select, Fetch, Insert, Update, and Delete statements invoked from DSN programs in Capture and Virtual Replay modes without Data Transformation or Date Rolling for DB2 V4R1M0 and above

DLI, BMP, and MPP programs in Capture and Virtual Replay modes with Data Transformation and Date Rolling for IMS V4R1M0 and above

BMS, FC, TC, TS, TD, IC, DB2, and IMS CICS EXEC statements invoked from on-line transactions in Capture and Virtual Replay modes, as limited above, for CICS V4R1M0

ATC runs with code generated by the following languages:

COBOL for OS/390 & VM V2R1, with VisualAge COBOL Millennium Language Extensions for OS/390 & VM V1R1

COBOL for MVS & VM V1R2, with VisualAge COBOL Millennium Language Extensions for MVS & VM V1R1

VS COBOL II V1R4M0

OS/VS COBOL V1R2M4

PL/I for MVS & VM V1R1M1, with VisualAge PL/I Millennium Language Extensions for MVS & VM V1R1M0[1] [2]

OS PL/I V2R3M0[1] [2]

OS PL/I V1R5M1[1] [2]

High Level Assembler V1R2[3] and V1R3[3]

Assembler H V2[3]

Distillation Assistant support limited to record I/O.
Unit Test Assistant/Data Warper support limited to warping input file buffers.
Not supported by Distillation Assistant or Unit Test Assistant.

Licensed Program Materials Availability

This licensed program is available without source licensed program materials. It is available in object code.

Supplemental Terms

Testing Period

60 days

Translation

Available in English only

Installation/Location License

Not applicable. A separate license is required for each machine on which the licensed program will be used.

Usage Restriction

Not applicable.

Type/Duration of Program Services

Program Service including an IBM Support Center are provided for a fee.

First year service/support is required. Additional service is optional.

Warranty

Application Testing Collection for MVS/ESA is provided without warranty on an “As Is” basis. The first year of Program Services is mandatory.

IBM®

References in this publication to IBM products, programs, or services do not imply that IBM intends to make these available in all countries in which IBM operates. Any reference to an IBM product, program, or service is not intended to state or imply that only IBM's product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any of IBM's intellectual property rights may be used instead of the IBM product, program, or service.

Any other documentation with respect to this licensed program, including any documentation referenced herein, is provided for reference purposes only and does not extend or modify these specifications.

April 1999

Printed in U.S.A.

GC26-9541- 2