

PRODUCT SHEET

CA Verify Automated Regression Testing for VTAM

CA Verify® Automated Regression Testing for VTAM r8.5



CA Verify® Automated Regression Testing for VTAM (CA Verify for VTAM) is the automated mainframe testing tool from CA Technologies for z/OS applications that use 3270-type terminals or terminal emulation. Using CA Verify for VTAM, you can perform unit, regression, stress, concurrency, migration and system testing, and you can resolve issues that occur as a result of your testing. CA Verify for VTAM also streamlines the testing of major system changes during z/OS or TSO upgrades and system maintenance. CA Verify for VTAM can log online application, including those running under IBM IMS/DC, TSO/ISPF, IBM CICS Transaction Server, IBM DB2 for z/OS, CA IDMS™/DC or any VTAM subsystem.

Overview

CA Verify for VTAM helps you automate and perform several types of tests for z/OS applications that use 3270-type terminals or terminal emulation. Automated testing capabilities are provided for regression, unit, stress, concurrency, migration and system testing.

Business value

By using CA Verify for VTAM, you can help ensure that your z/OS applications function correctly in both your test and production environments. With the test automation capabilities of CA Verify for VTAM, you can be assured of repeatable processes and a reduction in the costs associated with testing your applications, and the even higher costs arising from production errors and system downtime.

Features

Mainframe 2.0

CA Verify Automated Regression Testing for VTAM has adopted key Mainframe 2.0 features designed to simplify your use of CA Verify for VTAM and enable your staff to install, configure and maintain it more effectively and quickly.

- **CA Mainframe Software Manager™:** CA Mainframe Software Manager (CA MSM) automates CA Verify for VTAM installation, deployment and maintenance and removes SMP/E complexities.
 - The **Software Acquisition Service** enables you to easily move product installation packages and maintenance from CA Support Online directly to your mainframe environment and prepare them for installation.
 - The **Software Installation Service** standardizes CA Verify for VTAM installation, which includes a new, streamlined Electronic Software Delivery (ESD) method that allows CA Verify to be installed using standard utilities. This service also provides standardized SMP/E product installation and maintenance via APARs and PTFs, and simplifies SMP/E processing through an intuitive graphical user interface and an intelligent Installation Wizard.
 - The **Software Deployment Service** enables you to easily deploy CA Verify for VTAM in your mainframe environment.
 - **CA MSM Consolidated Software Inventory (CSI)** updates and infrastructure improvements add flexibility to CA MSM processing of CSIs and enable CA MSM to more effectively utilize CPU and system memory.
- **Installation Verification Program (IVP) and Execution Verification Program (EVP):** As part of qualification for inclusion in the set of mainframe products from CA Technologies released every May, CA Verify for VTAM has passed stringent tests performed through the IVP and EVP to find and resolve interoperability problems prior to release. These programs are an extension of CA Technologies ongoing interoperability certification initiative launched in May 2009.
- **Best Practices guide:** This guide provides information on CA Verify for VTAM installation, initial configuration and deployment to shorten the learning curve for staff responsible for the installation and management of this product.

Other key features

CA Verify for VTAM is comprised of menu-driven, ISPF-like screens for easy automation of testing tasks, including unit, regression, stress, concurrency, migration and system, while also ensuring secure data. This enables you to be confident in the integrity of your applications, systems and data before migrating to production.

- **Regression testing:** Regression testing ensures that a change to a system component does not have unexpected effects on the rest of the system. In regression testing, you create a benchmark test and then re-execute the system using the same test data. CA Verify for VTAM compares the results with the benchmark results to determine if there are any unexpected differences.

With CA Verify for VTAM, it is easy to create and maintain standardized tests for your applications. Whenever you make a change, you can quickly determine whether or not the application still performs as expected.

- **Rules function:** CA Verify for VTAM is used to identify changes in a test stream of prerecorded 3270 activities. This test stream can be used repeatedly for regression and volume testing against a new software release. However, instead of using the functions typically used to pinpoint test matches and mismatches during runtime, you can use the Rules Function to identify known changes before running a test stream and specify in advance how CA Verify for VTAM will handle each change.

Simple, automated, point-and-click technology enables you to easily specify and predefine changes to a screen, as well as pinpoint inclusions and exclusions on items you do and do not wish to compare as you test. A rule is created accordingly, and manual programming and rule creation is eliminated.

By predefining expected changes and instructing CA Verify for VTAM on how to respond to them, it is easy to streamline the testing of applications that have significant screen changes.

- **Unit testing:** Unit testing is the most common type of testing. You change individual units of work and test each change. A unit of work may be a program, a sequence of events, or just an input/output screen.

An example of unit testing includes changing a field on a screen. Using CA Verify for VTAM, you can create test streams (a log of captured records) to identify all screens connected with the change you plan to implement. Once you change the field on the screen in the application, you can run the logged test stream. CA Verify for VTAM compares the output produced by the program before the change with the output produced after the change and highlights the differences. After reviewing these differences and implementing the required changes, you can rerun the logged test stream to ensure that the modified program is functioning as expected.

- **Integration testing:** Integration testing determines if a program works as expected with other programs. A program can pass unit testing and then fail when executed in conjunction with other programs that were not part of the unit test. For example, if several programs update the same file, a change to one program may have unexpected effects on the others.

CA Verify for VTAM enables you to perform integration testing easily and efficiently. For example, testing a changed field on a screen beyond unit testing can be accomplished by creating a test stream logging all affected and associated programs. By using that test stream and re-executing it as part of your ongoing application testing, you can be assured that accurate integration testing is performed, enabling you to make corrections and modifications as needed.

- **Concurrency testing:** Concurrency testing determines what happens when similar or identical transactions execute at the same time and try to perform the same task, such as processing the same file or database record.

Manual concurrency testing is extremely difficult—if not impossible—given differences in network and access methods that greatly affect how IBM CICS transactions are processed. And, having multiple users simultaneously enter the same transaction on different terminals is impractical. With CA Verify for VTAM, concurrency testing is both easy and accurate because the product automatically ensures that the transactions are processed simultaneously.

- **Stress testing:** Stress testing lets you discover and evaluate how your system behaves under heavy load levels and how increased transaction volume affects response time. Using the results of stress testing enables you to effectively tune your applications and systems. Your organization's capacity planners can also use stress testing to determine when and how to improve your systems to meet projected growth estimates.

Because CA Verify for VTAM uses virtual terminals, you can simulate system activity without consuming valuable system resources. It allows you to edit and rerun test streams for multiple terminal application testing, repetitive application testing and system-wide testing. In addition, you can log the terminals for an application without specifying terminal names and without incurring the overhead associated with logging all the terminals in a network. Optionally, you can perform large-volume or stress tests in batch.

In addition, full exploitation of z/OS architecture provides virtual storage constraint relief in multi-terminal environments. This enables you to be confident that you can perform large-scale stress testing without encountering system storage constraints.

- **Migration testing:** Migration testing ensures that existing applications perform as expected when you anticipate major hardware or software changes, including adding disk packs or migrating among releases of z/OS.

For example, if you have applied maintenance to VTAM, you will want to ensure that your production work is not negatively affected. You can simply use the test stream creation process in CA Verify for VTAM to log several critical hours of activity—for as many terminals as you believe are necessary—to provide a realistic perspective of production activity. To assess the effects of migration, you can re-execute this test stream post migration, making adjustments as necessary.

- **Secure test data:** System data security is an important consideration given industry and government requirements. Because CA Verify for VTAM is a VTAM application, it is subject to whatever VTAM security system you are using. In addition to this VTAM security, CA Verify for VTAM performs its own internal checking based on operator ID to ensure that test streams are only accessed by authorized users.

CA Verify for VTAM provides important safeguards to protect against unauthorized use and is compatible with external security systems, such as CA ACF2™ for z/OS, CA Top Secret® for z/OS and IBM's RACF. These interfaces can be used to restrict access only to authorized users.

Additional security features include the ability for you to specify read, write and print protection for test streams and rule sets. You can specify that CA Verify for VTAM not display the contents of dark (non-display, password-protected) screen fields. Specific applications can be globally excluded from CA Verify for VTAM test streams. Moreover, when you create an individual test stream, you can specify which applications to include or exclude.

- **User ID logging:** User ID logging allows inclusion or exclusion of screens captured during logging by a specific user or users. This feature allows for more secure testing by restricting screen access to only certain users. Through user ID logging, only those users who should be working with sensitive data are permitted.
- **Test data generation:** CA Verify for VTAM generates random test data and/or any fields specific to a single screen or screens for user-specified fields.

Delivery approach

CA Services provides a portfolio of mainframe services delivered through CA Technologies internal staff and a network of established partners chosen to help you achieve a successful deployment and get the desired business results as quickly as possible. Our standard service offerings are designed to speed deployment and accelerate the learning curve for your staff. CA Technologies field-proven mainframe best practices and training help you lower risk, improve use/adoption and ultimately align the product configuration to your business requirements.

Benefits

To meet the challenges of ensuring high-quality, reliable and stable applications, CA Verify for VTAM enables you to conduct many types of testing. By automating your tests, you can be assured of repeatable processes and a reduction in the costs associated with quality-assuring your applications—and the even higher costs that result from production errors and system downtime.

Despite your best intentions, manual testing can be error-prone and resource-intensive. CA Verify for VTAM reduces this complexity through the use of test streams, enabling you to utilize them later with no need to rekey information or manually compare before-and-after test results. Tests that are repeated can be accurately and consistently executed with minimal effort using CA Verify for VTAM.

By capturing CA Verify for VTAM test streams, you can later modify those test streams directly or establish rules that model and handle expected changes as your testing needs dictate.

CA Verify for VTAM also allows you to simulate production conditions: one of the most critical types of testing. For example, you can use production-like data rather than contrived test data, execute similar or identical transactions simultaneously and simulate high-volume activity without consuming system resources or affecting response time. By utilizing virtual terminals, CA Verify for VTAM allows for simulation with minimal resource overhead, reducing the cost to your organization.

The CA Technologies advantage

CA Technologies has 30 years of recognized expertise in robust, reliable, scalable, and secure enterprise-class IT management software. CA Verify Automated Regression Testing for VTAM is a key component of the Mainframe 2.0 initiative from CA Technologies to change the way the mainframe is managed forever by helping you maximize the value of our mainframe products and by providing a simplified experience and innovative solutions that deliver value quickly and flexibly.