Reduce your risk with automated VSAM recovery management

IBM CICS VSAM Recovery for z/OS, Version 6.1

Highlights

- Forward recovery for CICS®-managed VSAM data.
- Forward recovery and backout for batch VSAM data.
- Change accumulation.
- Export and Import commands.
- Replication logging for IBM® GDPS® Active-Active sites.
- Batch support, including logging.
- NOTIFY support for IBM and non-IBM backups.
- Support for backups created by Backup-While-Open (BWO).
- Automated recovery.
- Ability to invoke backup from the CICS VR panel interface.
- Preallocation of target data set prior to restore.
- Authorization management for the panel interface.
- Test-only forward recovery and backout.
- Disaster recovery report.
- Panel interface.

New in this release

- CICS Transaction Server for z/OS® V6.2 support
- Add new fields into DWWJUP utility.
- Need a better way to control automatic log of logs scanning.
- Timer-based buffer flush.
- Option to do a selective log of log scan.
- DWWGJCDS/DWWAR to use the above line storage.

The value of integrity

You have become so accustomed to the superior reliability you get from the IBM System z® platform that sometimes you forget about it. With everything else that's happening, it's nice when some things just work all the time. However, even with your extensive and resilient infrastructure, chance failures can occur, however infrequently. When a failure does occur, the impact on your organization is determined by the time the data is unavailable to your employees and customers. In today's world of regulatory compliance — where you can no longer ignore the risk of data loss — it's no longer acceptable to ignore the risk of potential failure.

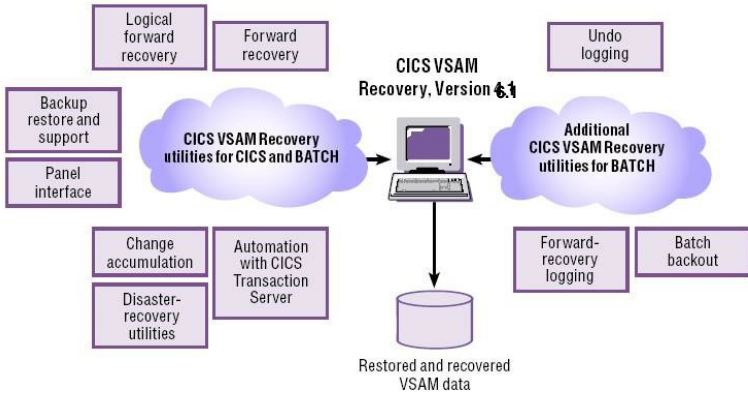

Figure 1. CICS VSAM Recovery architecture

IBM CICS VSAM Recovery for z/OS, Version 6.1 can help because it recovers CICS and batch Virtual Storage Access Method (VSAM) data from physical or logical corruption due to catastrophic hardware failure, software failure, or human error. By using these robust capabilities, you can recover from errors quickly, helping to

reduce the need for offline processing, which helps to minimize application outages.

To minimize the actual or potential impact, you must take precautions to mitigate the risk of failure and maintain your organization's ability to handle large transaction volumes — without increasing the total cost of ownership (TCO) of your valuable IBM CICS application and data assets.

Governance and compliance have always been important in business, and current regulatory mandates, such as the U.S. Sarbanes-Oxley legislation, have made them even more relevant to IT business. CICS VSAM Recovery can help you implement compliance-related initiatives, such as ensuring the integrity and availability of your valuable VSAM data.

CICS VSAM Recovery helps increase the responsiveness of your VSAM assets to fit your organization's unique needs. Whether your business goal is to boost performance, increase asset accessibility and availability, or improve the productivity of your VSAM assets and the storage administrators who oversee them, CICS VSAM Recovery for z/OS, Version 6.1 can help by:

- Automatically recovering critical data from physical and logical corruption.
- Recovering updates made by CICS transactions or batch applications.
- Helping to reduce the downtime caused by unavailable VSAM data.
- Combining high-performance capabilities with low overhead.

Continuous availability

CICS Transaction Server and CICS VSAM Recovery supports the replication of VSAM data for IBM GDPS Active-Active continuous availability, enabling two data center sites that are separated by unlimited distances to run the same applications and to have the same data to provide cross-site workload balancing, continuous availability, and disaster recovery.

Continuous availability provides large enterprises that run mobile and traditional workloads with the agility they need to respond quickly to major outages, and it improves operational efficiency by effectively utilizing failover resources.

Active standby configurations support replication of IBM DB2®, IBM IMS™, and VSAM data. With an Active-Query configuration, you can use the capacity on the secondary site, thus taking advantage of an additional workload balancing capability.

CICS VSAM Recovery works in conjunction with the following products to support IBM GDPS Active-Active continuous availability initiatives: IBM InfoSphere® Data Replication for VSAM for z/OS, IBM Multi-site Workload Lifeline, IBM GDPS/A-A, IBM System Automation for z/OS, and IBM Tivoli® NetView® Monitoring for GDPS.

Integration with external backup products, including ABARS

Notification support helps improve control of the VSAM environment by enabling file recovery through the IBM Aggregate Backup and Recovery System (ABARS) function within the DFSMShsm and DFSMSdss components of z/OS and IDCAMS REPRO. CICS VSAM Recovery also delivers a NOTIFY utility for backing up a VSAM sphere created by IBM or non-IBM products. It can then register information about the backup in the recovery-control data set (RCDS) in CICS VSAM Recovery. This feature makes backup information available for the CICS VSAM Recovery ISPF dialog. Remember, though, that you should not use this utility for those backup products that already have implemented the CICS VSAM Recovery notification service, DFSMSdss, DFSMShsm, and ABARS.

Manual control of VSAM sphere reorganization

You can use the ISPF REORG invocation to manually reorganize VSAM spheres anytime. Previously, this function was integrated into the CICS VSAM Recovery automated recovery feature and was available only for data sets that had suffered a backout failure. You can use the ISPF REORG invocation to generate and submit the reorganization job using the CICS VSAM Recovery ISPF dialog interface. You can use the reorganization job to increase the space allocated for the VSAM sphere and change the control interval sizes of any sphere component.

Enhanced logging support

The “multiple undo logs” function enables you to use any number of undo logs instead of a single one. You can select a particular undo log to use based on user ID, job-name prefix, and VSAM sphere-name high-level qualifier. The function also enables you to segment the use of the function, for example, to separate test logs from production ones.

Using the CICS VSAM Recovery interface, you can set a retention period for z/OS log streams and logs of log streams. The “retention period for blocks” value applies to all registered log streams. You can also specify individual retention criteria for log streams registered to CICS VSAM Recovery.

The “automatic individual deregister” option on the “CICS VSAM Recovery individual log-stream deregister” panel shows whether an individual retention period is specified for any log stream (ON) or no log streams are registered to CICS VSAM Recovery that have individual deregistration criteria specified (OFF).

Powerful log-stream copy utilities provide flexible options:

- Start and stop times can be made more granular by specifying them in a time-of-day format
- You can specify a browse cursor to control the continuity of the log-stream copying
- You can use the DELETE option to delete all blocks from the log stream up to the last copied block inclusively, which is useful to prevent log-stream overloading.

These capabilities provide an alternative to the existing CICS VSAM Recovery function of log stream auto-deregistration, enabling you to delete log-stream data and allowing CICS VSAM Recovery to proceed only when the log stream is copied successfully. Log streams can be deregistered without being recalled if they use a logger retention policy.

In addition, the log-of-logs scan utility scans all the logs registered in the RCDS, gathers information needed for recovery, and updates the RCDS with this information. The scan runs automatically when you use the panel interface to perform a forward recovery.

CICS VSAM Recovery provides a capability to automatically run the log-of-logs scan at regularly scheduled times using the CICS VSAM Recovery server address space, helping to reduce the overall overhead and cost of data-set recovery. You can also manually run the log-of-logs scan at the most suitable times using SETSMS commands to interact with the CICS VSAM Recovery server address space.

Also, a journal-print utility prints information about records logged by CICS VSAM Recovery in an MVS™ log. You can invoke the CICS VSAM Recovery journal-print utility by submitting a batch job running the utility program DWWJUP.

Other robust features

CICS VSAM Recovery for z/OS includes a range of other features to meet your business needs:

- CICS VSAM Recovery supports extended entry sequenced data sets (ESDSs) used by CICS Transaction Server and provides support in batch through CICS VSAM Recovery batch logging.
- Extended ESDSs can also be used in a combined environment, sharing CICS VSAM record-level sharing (RLS) files with batch applications.
- Backout-failure detection in CICS VSAM Recovery can operate in a threadsafe mode to complement the file-control threadsafe support.
- Operations capabilities enable easier day-to-day use, such as initiating backups and assistance with restores requiring data sets' pre-allocation, such as IDCAMS REPRO.
- The backup process can be invoked from the CICS VSAM Recovery panel interface so that you can create both sharp and fuzzy (if enabled) backups.
- The target data set can be allocated before it is restored from a backup. This feature supports backups by REPRO (a DFSMS data-set copy utility on the IBM z/OS platform) and other backup types where restore processing does not include allocating data sets.
- Automated recovery following failure helps reduce data-set downtime.
- Use authorization-management capabilities to manage authorization for specific tasks initiated through the panel interface based on user ID.

- Selective forward recovery enables you to remove specific unwanted changes or eliminate bad data by choosing or omitting records from the forward-recovery logs used as input to your recovery job.

- An inventory scavenger deletes redundant data from the RCDS. Because it runs as a separate job, the scavenger job can be canceled and restarted later, if necessary; for example, if it competes for resources with production batch jobs.

- Change-accumulation processing sorts forward recovery records into change-accumulation data sets, which can speed up forward recovery if individual VSAM records have been updated many times.

- You can use commands and disaster-recovery reports to review and validate what is needed at a remote disaster recovery site.

- Testing forward-recovery and backout procedures enables you to test recovery processes without affecting production data.

- The ability to manage log streams with powerful functions helps simplify recovery tasks.

- Some hardware backup programs (for example, the IBM FlashCopy® utility) do not use the backup while open (BWO) protocol. To support these programs for VSAM data-set forward recovery, a "no-tie-ups" option is available.

CICS VSAM Recovery for z/OS, Version 6.1, can help mitigate the impact of loss through physical or logical damage to batch or online VSAM data. With its robust capabilities, you can help ensure that your valuable VSAM data assets are available whenever needed.

CICS Tools — your pathway to success

CICS VSAM is one of the five core foundational CICS tools that exploit and augment the latest operational efficiency, service agility, and cloud enhancements in CICS TS V6.2 to give you a service delivery platform for the mobile era.

CICS Tools can help you optimize your CICS resources, achieve greater capacity, and improve the availability of your critical enterprise systems. Their powerful automation capabilities can speed service delivery, improve standardization, and reduce risk, Rich discovery, advanced visualization, and comprehensive reporting provide the insight needed to ensure that your applications run smoothly and changes are efficient and reliable.

Support for the application and platform resources introduced in CICS TS V6.1 helps you to achieve value from the new version of CICS more quickly. The tools include modern interfaces integrated with CICS Explorer® helps new and experienced IT personnel be more productive with minimal training delay. Foundational enhancements continue to extend the tools capabilities in many areas.

The other core foundational CICS tools are:

- IBM CICS Deployment Assistant for z/OS V6.1

- IBM CICS Interdependency Analyzer for z/OS V6.1

- IBM CICS Configuration Manager for z/OS V6.1

- IBM CICS Performance Analyzer for z/OS V6.1

For more information

To learn how you can enhance the performance of your CICS systems by using CICS VSAM Recovery, contact your IBM representative or IBM Business Partner, for Hardware and software requirements for the component products refer *System Requirements*.

To learn more about other IBM CICS Tools, go to:

ibm.com/cics/tools

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