



IBM z/OS™ SCLM Suite: Then, Now and in the Future

The IBM z/OS Software Configuration and Library Manager (SCLM) Suite is a low-cost, high-function solution for managing development in today's e-business environment. The z/OS suite, formally called IBM OS/390® SCLM Suite, first became available in November of 2000 and has been evolving ever since – adapting, enhancing and adding related new products to meet our customers' needs.

SCLM Suite and related product introductions

2000	2001	Spring/Summer 2002	planned for the future*
IBM OS/390 SCLM Suite, November 2000 Consists of: • SCLM • IBM Cloud 9 for SCLM for OS/390 • IBM Breeze for SCLM for OS/390	IBM z/OS SCLM Suite Version 2 September 2001 • New Java development toolkit • SDSF batch viewer	SCLM enhancements: • Package Backout • Version Viewer • Version History Browser	Cloud 9 enhancements: VA Java integration via SCCI New web-based administrator workbench
	Breeze Refresh October 2001	New IBM Migration Utility for z/OS and OS/390	New tool to provide enhanced control over access to SCLM libraries
		New IBM Merge Tool for z/OS and OS/390	SCLM integration with WSED
			Cloud 9 integration with WSAD and WSED More new tools and additional product enhancements!!

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A brief review of the SCLM Suite

The IBM SCLM Suite provides :
 Comprehensive and integrated S/390® web-based SCM (Software Change and Configuration Management) tool which enables S/390 centralized storage, management, and control of e-business objects as well as S/390 objects.

The SCLM Suite at first consisted of 3 products:

- SCLM, part of base z/OS or OS/390 – provides a robust library and configuration management solution for S/390
- IBM Cloud 9 for SCLM for z/OS – adds a web-based developer's workbench for SCLM which enables traditional S/390 and e-business objects to be managed as a single application
- IBM Breeze for SCLM for z/OS – provides software developers and managers with a browser-based software package notification, review and approval system for SCLM.

What was new in 2001

Cloud 9 Version 2 was introduced in September 2001 as a result of feedback from our customers. Version 2 provided Java™ extensions to Cloud 9 that permit Java code, which has been stored and modified in SCLM, to be remotely built and deployed on UNIX® System Services (USS). It also introduced a new SDSF Batch Job Viewer. The Viewer allows you to monitor and process items in your JES2 job queue from a web browser.

The Breeze component of the SCLM Suite was also enhanced in 2001. The Breeze changes were made available as a refresh to the product, rather than as a new version. The Breeze enhancements included additional viewing options for the web-based Breeze approval interface, as well as modifications to the process for initiating package notification/approval and in promoting approved packages.

Spring/Summer 2002

In the spring of 2002, SCLM, the base component of the SCLM Suite, was updated to provide a new package backout capability as well as a version viewer and version history browser. These new functions make the recovery of your application data quicker and easier than ever. You do not have to wait for a new release of z/OS or OS/390 to take advantage of these enhancements. Contact IBM Service to order the PTF. The PTF is currently available for the latest release of z/OS and plans are in the works to release it for OS/390 2.10. Please have IBM Service add you to the interested parties page for the OS/390 APAR

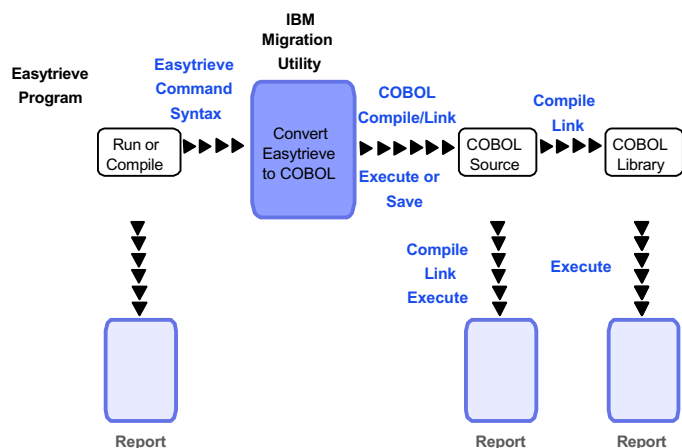
We also delivered two new products to complement the SCLM Suite: IBM Migration Utility for z/OS and OS/390 and IBM Merge Tool for z/OS and OS/390.

In April, we introduced the Migration Utility. The Migration Utility allows you to convert programs written in Computer Associates' Easytrieve® Plus into IBM mainframe COBOL. The IBM Migration Utility gives you a choice:

- You can continue developing programs using the Easytrieve format. The only thing that changes is the JCL. The Migration Utility translator and COBOL compiler replace the Easytrieve run-time interpreter. You can continue to maintain the program source in Easytrieve format. OR
- You can convert the Easytrieve programs to COBOL. You can convert both existing and newly developed programs. After the conversion, you can choose to update the programs using either the Easytrieve format or standard COBOL statements.

Even if you do not own an Easytrieve product, you can still use the IBM Migration Utility and enjoy the benefits of the Easytrieve language.

IBM Migration Utility for z/OS and OS/390



The IBM Migration Utility converts standard Easytrieve batch programs. It supports VSAM, QSAM, SAM, SQL/DB2®, tape files and unit record devices. It also supports the Easytrieve Macro Language and COPY directive. In most instances there will be no changes required to your existing Easytrieve programs.

The IBM Migration Utility:

- Reads Easytrieve language statements
- Converts them to a neutral meta-format
- Generates standard IBM COBOL statements
- Compiles (and optionally saves)
- Executes the compiled COBOL code

The generated COBOL source can be edited to include additional logic not supported by the Easytrieve language, or to make modifications to report content as required by changing business conditions.

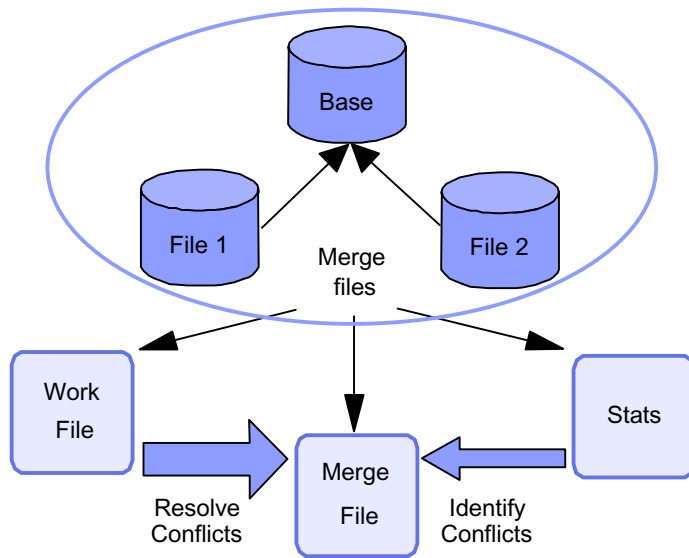
Sample JCL is provided for each job step in the translation process, which can be adapted to the user's operating standards.

Some of the benefits of using IBM Migration Utility and COBOL include:

- COBOL I/O handling is more efficient
- COBOL sorting and searching is more efficient
- COBOL better coexists with other languages and environments
- All COBOL debugging tools can be used for debugging
- More people are available for program support

- COBOL is portable to other platforms

IBM Merge Tool for z/OS and OS/390



In June, we released the Merge Tool. The IBM Merge Tool is an easy to use ISPF-based 3-way merge facility that provides both project managers and S/390[®] application developers with the tools they need to identify, analyze and consolidate (merge) independently coded changes.

There are many reasons why changes may need to be made in parallel – an emergency fix, concurrent development, multiple release development or maintenance, customization of vendor application code – but a common process for managing the consolidation of those changes is necessary. You need to:

- Identify the changed components
- Analyze the complexity
- Merge and review the changes
- Address any merge conflicts
- Create merged source
- Test the merged output.

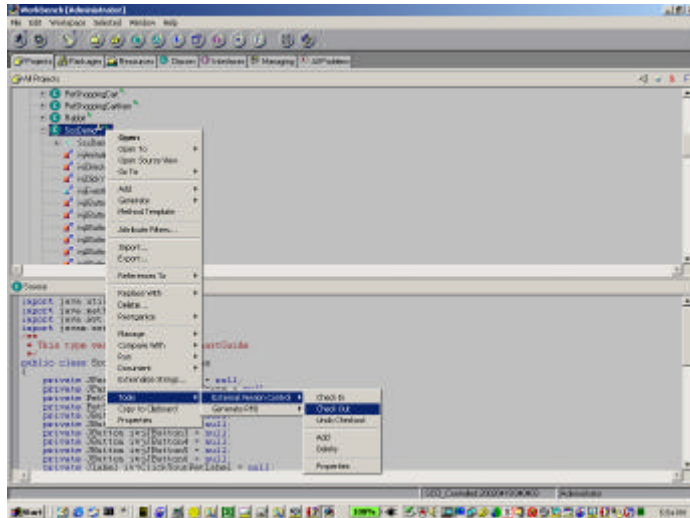
The IBM Merge Tool can help you efficiently use and manage this process to merge up to three versions of source code. In situations where the code complexity is low and there is no overlap among the changes, then the Merge Tool can be used to perform a merge automatically. In most cases, though, you are going to want to produce a Work File and Statistics first. The Statistics File will show you the number of inserted, deleted and reformatted lines. The Statistics File will also tell you whether or not you have any merge conflicts and will help you estimate the size of the effort to resolve the conflicts and merge the changes. The Work File allows you to preview the merged output and correct any merge conflicts by editing the file. The Work File is used to generate the final Merge File. Once the code has been merged, whether automatically or by first reviewing and resolving conflicts in the Work File, the merged source code can be stored back into your Software Configuration Management (SCM) system. The merged source then becomes the basis for any future modifications to or compiling of the source part.

The IBM Merge Tool:

- Assists project managers with analysis, providing the details required to accurately determine what resources are needed for the consolidation effort.
- Assists developers in identifying changes being merged.
- Assists developers in isolating source code conflicts and resolving those conflicts.
- Assists developers in the actual consolidation of independently coded versions of a source part.

We have no intention of slowing down...

Later in 2002, we plan to release enhancements to Cloud 9 to allow integration with Visual Age[®] for Java (VA Java) Version 4 via the Microsoft[®] Source Code Control (SCC) API. This integration uses the VA Java Tool actions for external version control. You will now be able to add and remove Java parts from SCLM control and check them in and check them out of SCLM via Cloud 9 from within the VA Java environment. You will also be able to launch the Cloud 9 browser interface from within VA Java in order to build and promote your completed application.



The new VA Java integration will be made available via PTF and can be ordered by calling IBM Service.

Although our initial shipment of this functionality will be based on VA Java, we plan to continue to explore support for additional environments that support the SCC API, such as Visual Basic[®], Visual C++[®] and PowerBuilder[®]. When WebSphere[®] Studio Enterprise Developer (WSED) ships later this year (currently planned for third quarter), it will include external library support for base SCLM. This will provide integrated support for SCLM, but will initially be limited to 8 character file names. We would like to provide this support for both WebSphere Studio Application Developer (WSAD) and

WSED via Cloud 9 in the future in order to provide long file name support.

We plan to provide additional enhancements to the Breeze product including a new browser interface to the Breeze administrative tasks and a separate 'seal' function that will allow you to launch the approval process from outside SCLM promote.

We will also be launching a new product to provide additional control over access to SCLM managed libraries. Currently, access to SCLM controlled data is restricted based on RACF[®] or other security package and is done on a data set basis. This tool will work with IBM RACF to allow you to further restrict access to SCLM data so that it can only be accessed using the SCLM Suite products. It will also allow you to restrict access from within the SCLM Suite based on function, so that you can decide which users should have access to which SCLM functions.

As you can see, we have been busy and have a lot more planned for the future.

For more information on the SCLM Suite and related products, visit our web sites at www.ibm.com/software/ad/sclmsuite and www.ibm.com/software/ad/migration or contact your IBM representative.



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