Automatically Merge Software Change

IBM Merge Tool for z/OS™ and OS/390®

Highlights

Easy to use ISPF-based 3-way merge facility for project managers and S/390® application developers

Enables both project managers and application developers to effectively manage parallel or concurrent development

Provides the tools necessary to identify, analyze and consolidate independently coded changes that affect the same source

Enables developers to automatically merge up to three versions of source code

Enables developers to identify and resolve merge conflicts

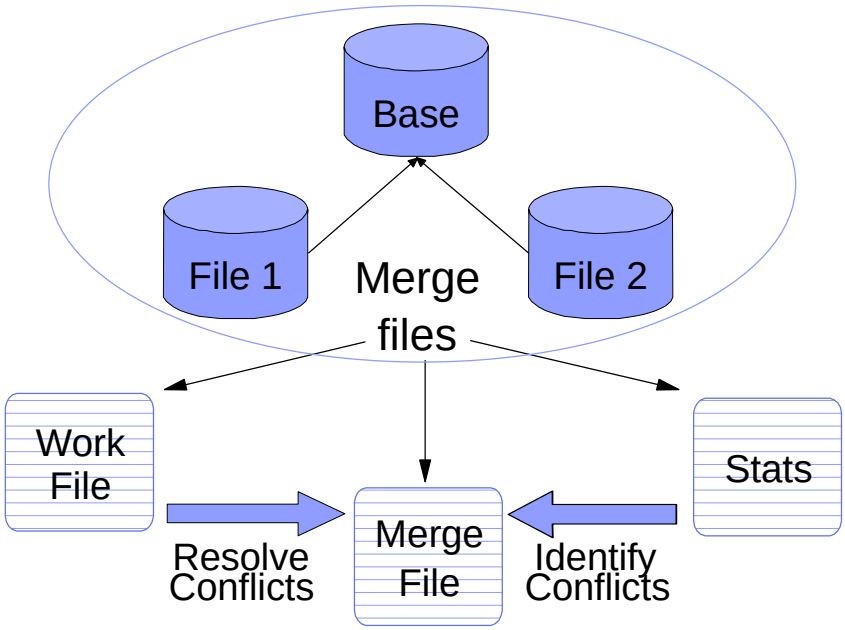
Provides statistics and relevant data needed by the project manager in order to analyze and estimate the size of a consolidation effort

Overview

Today's applications are complex. Project Managers are challenged to meet aggressive objectives and deadlines. Application developers, in an attempt to keep pace, find themselves performing tasks against the same source code in parallel with other developers. The IBM Merge Tool for z/OS and OS/390 provides both project managers and S/390 application developers with the tools they need to identify, analyze and consolidate these independently coded changes into a working, cohesive whole.

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.



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Identify the components that have changed
The Merge Tool allows you to match up Base File members with other members having the same name from one or two other files (File 1 and File 2). Based on the match up of the members, components that require merging are easily identified.

Analyze the complexity
The Merge Tool allows you to build a preliminary Work File to obtain member statistics, including the number of conflicts found. These statistics will give you a better understanding of how many conflicts there are and the resources required for the merge process.

Merge and review the changes
The merge process generates a marked-up Work File. The Work File shows inserts, deletions and overlap/conflict areas.

Address any merge conflicts
You can edit the Work File from within the Merge Tool and resolve conflicts before generating your final Merge File.

Create merged source
Once any conflicts have been addressed, then you are ready to generate the Merge File. The Merge Tool reads the Work File as input and performs the insertions and deletions indicated in the file in order to generate the Merge File output . The Merge File contains the merged source code which can then be stored in your Software Configuration Management (SCM) tool or used as input to a compile.

Test the merged output
The final step is to compile and link the merged source code and then test the changes.

Features
The IBM Merge Tool provides the tools required by both project managers and application developers to manage the task of consolidating parallel development.

- ISPF Workbench

A simple to use ISPF interface provides access to the Merge Tool actions and reports.

- Merge Tool Actions

A variety of actions are available to perform merge tasks. The user can determine the degree of merge action based on the complexity of the changes.

- Reports

The IBM Merge Tool provides reports to aid in the assessment of source consolidation. The Statistics file is particularly useful in identifying and sizing a consolidation effort.

- Work File

The work file or marked-up file is produced by the merge process. Application developers can edit this file in order to review the changes and resolve any merge conflicts before generating the final merge result.

- Batch Utility

A batch utility is available to perform most Merge Tool actions in batch.

Benefits
The 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.

Hardware and Software Prerequisites:

- OS/390 Version 2 Release 10, or later (5647-A01) or z/OS Version 1 Release 1, or later (5694-A01)

Summary
The IBM Merge Tool for z/OS and OS/390 provides project managers and S/390 application developers with a set of utilities to help them effectively manage the parallel development process.

How to Order
For full ordering options, visit our Web site at www.software.ibm.com/ad/sclmsuite/mergetool. When ordering IBM Merge Tool for z/OS and OS/390, specify program number 5697-H70.

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