



MSS
International

COBOL to Java Solution Briefing



“Our mission at MSS is to make transformational IT projects
simple and painless.”

We do this by applying **industry leading expertise and automated tools** to the most complex mission critical modernization challenges our customers face.”

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- In 2004, the last time Gartner tried to count Cobol programmers, the consultancy estimated that there were about 2 million of them worldwide and that the number was declining at 5% annually.
 - According to the Tiobe Index, an indicator of the current popularity of programming languages - worldwide Java is at Number One and COBOL at number 22.
 - Despite the often quoted statistic of 70-80% of all current business transactions being written in COBOL, there is an ever widening gap between the number of large organizations that depend on COBOL, and the popularity of the language in today's programming world.
 - COBOL simply can't compete when it comes to displaying output in graphical form.



The United States Office of Personnel Management anticipates costs will increase **10 percent to 15 percent** annually “as personnel with the necessary COBOL coding expertise retire and cannot easily be replaced.”

Rewriting COBOL into Java – The Challenge for Success

- We've seen many examples where customers want to rewrite their application in Java so that it's properly constructed on current design principles, all the objects are identified and the end result is a completely rewritten application written in the best way possible. We understand the willingness to do this, however...
- It is simply not possible to do that in one step mainly because of all of the issues surrounding requirements specification, as well as the inherent problems keeping up with current development. (This is especially true with government and financial organizations who are subject to regulation changes).
- There is no way of doing a complete rewrite of a major system successfully unless you break it into bite sized chunks. This brings in issues surrounding data synchronization which introduces additional complexity and time.
- Successful projects have proven, time and time again, that the best overall modernization results are achieved by first migrating to the language and target platform of choice first and then evolving from there. Here there is no necessity to rewrite everything and no synchronization issues to consider.

COBOL to Java – MSS Jbol

- MSS has developed a COBOL to Java tool to help customers on any platform move to open source.
- Should a customer wish to convert their COBOL codebase (whatever the flavor) MSS can help including providing any necessary customizations as part of the project.
- The MSS Jbol approach to COBOL to Java conversions is to convert the code line for line. Overall program structure is retained so that, as far as possible, the converted code is familiar to the original COBOL programmers and the code base expands very little.
- The obvious advantage here is that the original programmers, who have inherent knowledge of the business logic as represented in the code, are able to apply that knowledge immediately after conversion.
- This addresses, head on, one of the hardest parts of a migration project – change management as it relates to the fear of current teams feeling obsolete.

COBOL to Java – MSS Jbol

- The automation of a COBOL to Java migration not only virtually eliminates the conversion phase of a migration but also gives rise to an increase in code quality and a corresponding reduction in testing time.
- New code can be added using any framework required. We place no restrictions.
- Rewritten or new components work alongside existing components.
- Many convenience classes are available for improved productivity, such as simplified database usage.
- Our solution involves a small amount of re-training and re-skilling staff in a way that allows them to leverage existing knowledge and become competent in the new language over time.

So Why Java?

Logical code layout - By keeping code and data layout recognizable to the existing SMEs, the business is able to move forward into the new world without risk of losing the vital business knowledge they have. Clear and consistent layout greatly aids in simplification of ongoing maintenance.

Third party libraries - The Java world opens you up to a vast library of both commercial and open source libraries which can be incorporated into your applications. Adding new features, like single sign-on, encrypted data handling, integrating to other web services etc, become pretty straightforward.

Performance - Java is fast - really, really fast. Most applications run as fast as native C programs and, in some cases, even faster. This is because some of the optimizations provided in the JVM to things like the indexed containers are just so much quicker than even a competent C programmer is able to achieve. Developer performance is also a huge bonus. Programmers mostly like working in Java and they tend to get results rapidly.

Internationalization - Java was designed from day one with the rest of the world in mind. Java uses 16 bit Unicode internally and is able to handle any character set in any language. Internationalization permeates the entire Java platform.

Network centric - Java makes working with resources across the network unbelievably easy. Remember that Sun, who originally developed Java, has as their motto "The network is the computer."

Customer Experience



MSS has conducted many COBOL to Java migrations each with their own unique challenges. These include KIR, the Polish Banks Clearing Organization, where extremely high performance was required; Integra (a US based software company) that successfully retrained all of their COBOL programmers, and Ford who deployed Java systems in 6 subsidiaries including Taiwan with a double-byte character set.

Please contact us today to see what we can do for you.

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