

metaware.

the complete IT modernization solution

NATURAL to COBOL MIGRATION

SOLUTION OVERVIEW

The **Refine® natural:cobol** language translator is a 100% industrialized migration solution which retains the structures and logic of Natural programs. By combining the powerful translation capabilities of **Refine®** with Metaware's unique Intelligent Translation Framework, native COBOL is accurately and quickly produced, delivering reduced total cost of ownership and enhancing performance.

ENVIRONMENTS

- IBM z/OS
- IBM z/VSE
- IBM z/VM

BENEFITS

- Eliminates the ongoing uncertainty and risks associated with Natural's future
- Removes the high costs of Natural licenses and expertise required for application maintenance
- Delivers higher migration productivity, while relieving project risk and maximizing ROI
- Aligns strict 1:1 functionality, reducing testing and training efforts, and easing the transition for development and maintenance teams
- Provides high performance and maintainability, lowering TCO in both the short- and long-term

Escape the restrictions of 4GL Natural and achieve the ultimate ROI by moving to a more viable programming language which increases the productivity of your long-term mainframe strategic applications

Since the 1980s, 4GL Natural has been used by multiple IBM mainframe customers due to its popularity and productivity. These same customers are now faced with the challenging decision to replace Natural with a more viable and widespread programming language due to:

- > Concerns about Natural's future, hindering ongoing development
- > Increases in software fees, resulting in higher total cost of ownership (TCO)
- > Decreases in staff expertise, impacting future development and maintenance

Refine® natural:cobol translator

In response to the economic, technological and staffing challenges associated with 4GL Natural, Metaware has developed a new-generation industrialized translator to COBOL. This advanced technology has been designed to provide the highest levels of productivity and return on investment, while ensuring the lowest TCO.

The new **Refine® natural:cobol translator** brings together:

- > 100% true automation, built on Metaware's industrialized Natural to COBOL migration process
- > High levels of accuracy, with **Refine®** producing the lowest defect injection rate within ranges of 5.10^{-5} to 5.10^{-6} per million lines of code
- > Intelligent Translation Framework, complementing **Refine®'s** capabilities to deliver sustainable native COBOL structures
- > Viability, performance and cost-effectiveness of a standardized generation of IBM Enterprise Cobol for z/OS®

This unique combination has a positive impact on the costs, risks, quality, testing effort and timeliness usually associated with a large Natural application migration.



INDUSTRIALIZED MIGRATION

Metaware has *industrialized* – that is, automated and streamlined – the Natural to COBOL migration process by relying on **Refine**[®], its powerful modernization software platform.

This industrialization maximizes the productivity achieved while delivering predictability, quality and standardization at the lowest project cost. Industrialization supports the entire lifecycle of the



Natural to COBOL migration.

Cataloguer – With Automated Discovery, Mapping, and Cross-Referencing of the Natural application components, a thorough analysis of unused and missing components is delivered. This analysis then allows consistent application subsets to be generated, which, after translation, will enter directly into regression testing.

Translator – Natural source code and MAPS are automatically translated into COBOL using industry coding standards and best practices for enhanced clarity. Typical processing rates translate 1,500+ components per hour.

Tester – A natural complement to Metaware’s own unique and proven regression testing strategy and process, the COBOL code can be both statically and dynamically instrumented, enabling a more superior assessment of the test coverage and confidence in the successful completion of the test cases.

The combination of **Refine**[®]’s powerful transformations and the industrialization of the Natural to COBOL process:

- > Provides the lowest defect injection rate measured in a range of 5.10^{-5} to 5.10^{-6} per million lines of code translated
- > Ensures the strict 1:1 functionality equivalent of the migrated applications, increasing quality and clarity of the source code
- > Allows full control over the end-to-end migration process, significantly reducing the efforts of testing and future software maintenance

INTELLIGENT TRANSLATION FRAMEWORK

To complement **Refine**[®]’s unique industrialization and powerful automated conversions, Metaware’s Intelligent Translation Framework ensures a strict 1:1 functionality.

The framework provides a set of COBOL copies emulating Natural statements and functionalities that have no direct match (for example, CALLNAT, ESCAPE TOP, ESCAPE BOTTOM). It also hides structural and technical intricacies from the maintenance staff.

Another key aspect of the Intelligent Framework is the support of online transactions and MAPs. When **Refine**[®] translates MAPs, it retains the structure of Natural programs while the framework handles the send and receive of all the MAPs.

As a result, the generated COBOL code is simplified, sustainable and easy to maintain.

VIABILITY, PERFORMANCE AND MAINTAINABILITY

Removing the reliance on 4GL Natural eliminates the issues of its questionable future and sourcing of scarce skills. Moving to IBM Enterprise COBOL for z/OS enables:

- > Gains in performance to meet the requirements of the most demanding mainframe customers
- > Openness, interoperability and standardization
- > Lowered cost of code execution

To ensure the continuity of software maintenance, **Refine**[®] **natural:cobol translator** has been designed to minimize the changes required for development and maintenance teams:

- > Retention of the Natural program structures as well as comments in COBOL
- > Generation of Zero GOTO statement
- > Rationalization by removing unused programs and dead code
- > Optional station for former Natural MAP Screen maintenance

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