

COBOL - CSC - BCIS

Computer Sciences Corp. (CSC)
Bureau of Citizenship & Immigration (BCIS)
FBISHED

COBOL to C++

History: In 2003, the functions of the US Immigration and Nationalization Service (INS) were taken over by the new Department of Homeland Security (DHS) of the BCIS FBISHED system written in the COBOL language. CSC contracted with TSRI as its sub-contractor to conduct a pilot project demonstrating the technical feasibility of automated modernization technologies.



Challenge: This project required documentation, COBOL to C++ transformation, and re-factoring of the FBISHED module's code. TSRI's HTML documentation deliverable included an "As-Is" design model consisting of UML Action Diagrams and Class Diagrams delivered in Rational Rose UML format via XMI export from TSRI tools. To provide access via ubiquitous browser based documentation, TSRI generated web-based Action Diagrams, Structure Charts, Class Diagrams, Data Element Tables, and Hyper-linked Source Code in HTML format. TSRI demonstrated the feasibility of 100% automated transformation into modern object-oriented, platform independent C++ by generating a 100% compilable and linkable C++ version of FBISHED. Finally, TSRI automatically eliminated dead and redundant code in the C++ version of FBISHED, demonstrating the feasibility of its automated re-factoring capabilities.

Results: Using the fully automated processes of its *JANUS*[™] toolset, TSRI transformed the COBOL of FBISHED with 100% automation into C++ to illustrate the feasibility of modernizing into platform independent C++. This same automated technology was then used to re-factor the transformed code, eliminating redundancy and removing all dead code. Finally, TSRI provided full "As-Is" and "To-Be" documentation for the C++ version of FBISHED in UML format for importation into Rational Rose and in HTML Hyper-linked format.