



## HTWC's Automatic CSP to COBOL Conversion

The HTWC 2Change language conversion tool kit is used for the automatic error free language conversion of application and data assets .

This 100% proprietary technology, is equipped with a powerful CSP/VAG Analyzer, and a Workflow mapping and code generation engine to perform automated CSP/VAG to COBOL language conversion.

### OVERVIEW

The volume usage of the CSP language is diminishing at a fast rate. Economies of scale are no longer being realized resulting in higher licensing and maintenance rates for CSP written applications, as well as a scarcity of programming expertise on the market. Indeed, to our knowledge, CSP options have been or will soon be removed from the IBM pricelist.

CSP2COB is a service in the 2CHANGE' service suite which automatically translates the CSP or Visual Age Generator code (batch as well as TP programs) into COBOL II, CICS, DB2, VSAM, BMS.

### Why COBOL?

- COBOL I/O handling and memory management are more efficient.
- COBOL sorting and searching is more efficient.
- COBOL coexists better with other languages and environments.
- COBOL skills are available in the labor market for program support
- Ability to port on a plethora of platforms supporting COBOL
- Enhanced debugging capabilities of the compilers

There is an abundance of application modernization tools on the market which reuse the COBOL source, thus opening the door for CSP/VAG applications for subsequent modernization.

## WHY CONVERT?

- Operate applications in a homogenous, open target environment
- CSP is now out of support – any operational problems may not be resolvable
- Migration to Visual Age Generator is expensive

## MAIN FEATURES OF CONVERTED PROGRAMS

- Unchanged user interface and business logic
- No additional software pre-requisites
- High readability & maintainability of generated code
- Improved CPU utilization
- Optional pseudo-conversational conversion for non-segmented processes
- Source code may be generated for mainframe systems as well as for Open systems
- CSP Maps are converted to BMS and CSP Records are converted to copy books

## TECHNICAL AND ECONOMICAL ASPECTS OF THE PROJECT

- Short conversion time, over 90% Automatic
- Complete substitution of the CSP/VAGen environment
- COBOL compiler – more market options
- Better maintainability

## CONVERSION PROCEEDURE

**Proof of Concept:** We initially convert 3 - 4 programs so the client/partner can evaluate the result and refine the conversion specification

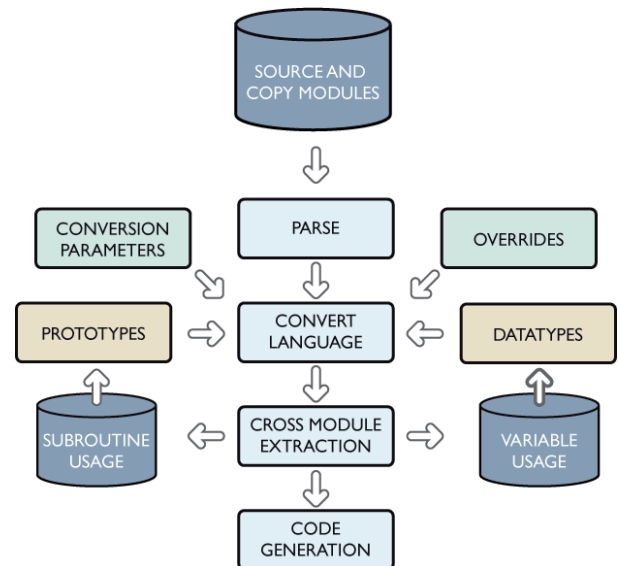
**Code understanding:** programs and artifacts are analyzed by a process similar to a compiler. The process creates a complete workflow of the software defining a cross reference.

**Customization:** The result of cross reference is analyzed and some customized rules are defined to improve the output conversion.

**Transformation:** The automated conversion process is performed, generating COBOL sources which are checked and compiled. A discovery utility can help locate and centralize CSP/VAG programs for use with the batch conversion utility

**Compile and Test:** Due to the thorough POC, the compile and test phase tends to be A straight forward user testing based upon predefined scenarios:

## ELEMENTS FOR THE CONVERSION



The input of the converter is the ESF(EXTERNAL SOURCE FORMAT) and/or the PRINTING of the CSP application with its members (records, maps, etc.).

It is possible to obtain this file from the CSP panels with function EXPORT or PRINT in the panel relative to the applications.

A source file in COBOL level II language, with integrated CICS commands if the original file is of TP typology and with standard SQL commands if it is of DB2 typology, will be obtained from the furnished file.

The converter translates programs without affecting the logical structure, while putting the routines of the applications in the same order as they were in the original one.

All descriptions and all structures in “prologue” will be brought back in the COBOL source as comments.

The CSP maps will be converted to BMS maps.

If the user uses the SDF product, it is possible to import the maps directly from MSL libraries. It is otherwise possible to obtain the BMS sources from the formats by means of a tool.

## SOME CLIENT REFERENCES OF CSP2COB

- GRUPPO ERG PETROLI (~2.000 applications)
- ARNOLDO MONDADORI (~1.800 applications)
- ISTITUTO GEOGRAFICO DE AGOSTINI (~400 applications)
- GRUPPO DUOMO ASSICURAZIONI – MAECI (~80 applications)
- REGIONE EMILIA (~600 applications)
- REGIONE TOSCANA (~600 applications)
- UNO-A-ERRE (~100 applications)
- INTERBANCA (~500 applications)
- HELVETIA (~300 applications)
- AHOLD (Netherlands) (~400 applications)

### Further information

For further information on the 2CHANGE services please visit our main website <http://www.htwc.com>. For specific questions, please mail to [info@htwc.com](mailto:info@htwc.com).

### Copyright information

This document refers to a number of hardware and software products that are produced by other companies. In most, if not all, cases the names of these products are claimed as trademarks by the companies that manufacture them. It is not our intention to claim either the products or their names or trademarks as our own.

---

▶ We are HTWC®

▶ [www.htwc.com](http://www.htwc.com)

▶ [info@htwc.com](mailto:info@htwc.com)

▶ +39 06 51964253

- ▶ Absolute market leader in mainframe re-hosting and migration
- ▶ 97% of migration fully automated
- ▶ Over 30 years experience
- ▶ Truly global
- ▶ All sectors