

HTWC's Automatic Assembler to COBOL Conversion

The HTWC 2Change language conversion tool kit is used for the automatic error free language conversion of application and data assets. HTWC and our Partners avail of this comprehensive suite of tools and processes combining 100% proprietary technology, with many years of in-house expertise.

HTWC's 2Change s is equipped with a powerful Assembler Analyzer, and a Workflow mapping and code generation engine to perform automated Assembler to COBOL language conversion

OVERVIEW

A large amount of applications implemented in 1970s and 1980s use the assembler programming technology, especially where performance is was critical. Unfortunately Assembler requires a large number of instructions to complete most business tasks and can therefore be difficult and expensive to maintain. Several generations of improvements to CPU power and a myriad of efficient compilers, have seen a close to obsolescence of Assembler in mainstream application development for many years. So much so there is an acute shortage of qualified.

Assembler programmers and integration with third party products is as good as non existence. Having assembler somewhere within legacy artifacts is often compared to a time bomb, and responsible managers are being urged to consider the conversion of Assembler to more conventional environments.

A large part of the HTWC roots lay in Assembler conversion, deeming HTWC one of the major experts in converting Assembler applications

ASSEMBLER TO COBOL CONVERSION

HTWC Assembler Conversion Services solves this problem by transforming assembler applications to native COBOL providing an elegant solution to a burning issue. HTWC's Assembler to COBOL conversion tool, maps each Assembler instruction to a corresponding fragment of COBOL code.

Registers, flags, and storage are mapped to COBOL variables that together recreate the source structure in a COBOL architecture. The functionality of the original Assembler program is completely preserved during the Assembler to COBOL conversion.

Our approach is not a one-size-fits-all. We customize the applicable transformation rules on every project based on the custom needs of each client. If you wish to adhere to your in-house programming standards or your system design team developed a custom architecture for the new application, we can customize the code transformation in line with your requirements

WHY CONVERT?

- Represents serious risk to organizations unless they have at hand personnel to address issues arising
- Very expensive to maintain and virtually impossible to develop
- Very cumbersome and difficult to integrate
- Our 100% success rate, huge amounts of experience and mature tooling deems HTWC a virtually risk free conversion partner

WHY COBOL?

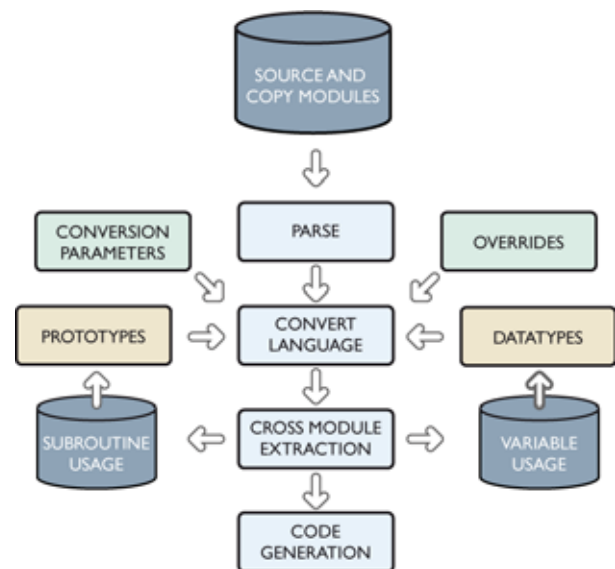
- COBOL searching is more efficient
- COBOL coexists better with other languages and environments.
- COBOL skills are available in the labor market for program support
- Ability to port on a plethora of platforms supporting COBOL
- Enhanced debugging capabilities of the compilers

ASSEMBLER TO COBOL CONVERSION PROCESS

Assembler to COBOL conversion process is performed as following:

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

1. **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.



2. **Customization:** The result of cross reference is analyzed and some customized rules are defined to improve the output conversion.
3. **Conversion/Transformation:** The automated conversion process is performed, generating COBOL sources which are checked and compiled.
4. **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:.(this can only be performed at client site).

CONVERSION SAMPLE

```

STH      R11,LORDNB      ORDNLB LENGTH TO HW
*        ORDNLB LENGTH TO HW
          MOVE R11NL TO LORDNB

L        R12,24(R1)      ADR. OF STATUS (ARG7)
*        ADR. OF STATUS (ARG7)
          MOVE A2C-AR1 ((R1N - AR1-IP + 25) : 4) TO
R12X
          SET ADDRESS OF A2C-AR12 TO R12P
          MOVE R12N TO AR12-IP

MVC      LAST,MAXANZ    FILL TABLE
*        FILL TABLE
          MOVE MAXANZ TO LAST

CLI      XFIRST,X'FF'    FIRST TIME ?
BE       GOON1 NO --->
IF XFIRST EQUAL HIGH-VALUE THEN
          GO TO GOON1
END-IF

```

SOME CLIENT REFERENCES OF ASSEMBLER TO COBOL

Name	Country	Sector
Pharma Rechenzentrum GmbH	Germany	Pharma/Healthcare
Direction Général des Postes	Tunesia	Logistics/Distribution
UPIM	Italy	Retail
Pavimental SpA	Italy	Construction
VDR	Germany	Insurances
Sogei	Italy	Public

CMB (Cooperativa Muratori e Braccianti)	Italy	Public
Six Card Solution	Austria	Banking
TELE SISTEMI FERROVIARI (SIM)	Italy	Logistics/Distribution
COMUNE DI MODENA	Italy	Public
AHOLD	Netherlands	Logistics/Distribution
HRGEST	Italy	Public

Typically in the region of 50 to 300 programs.

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.

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