DOCUMENTING COBOL APPLICATIONS

Marble Computer, Inc.   **April, 2020**

COBOL and Documentation Needs

Applications on IBM mainframes go back to the mid 1960's. During that time most programmers coded in COBOL, the English like programming language. IT management believed that COBOL would be a self documenting language.

Unfortunately that was not the case. And since then IT management has struggled with the need to document COBOL program changes.

Let's jump forward 60 years and the problem of documenting COBOL programs still exist. Documenting a COBOL program is more difficult then ever since COBOL programs have been modified 1,000s of times by 1000s of different programmers.

Over time the requirement for documenting an application and the associated COBOL programs became lax and in some cases non-existent. Programmers who originally developed these applications had the knowledge of the inner workings of their programs and could make the changes rapidly. But mostly failed to document the changes.

Thus 60 years later we live with a Legacy COBOL crisis. We all know the statistics; 220-250 Billion lines of COBOL code still in production. 1.5 Billion new lines of COBOL code annually.
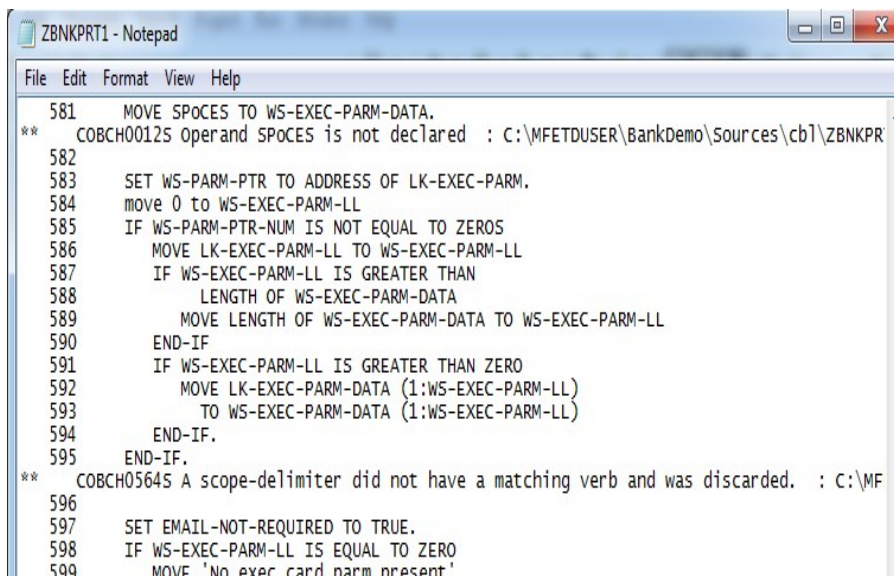
Marble Computer has solved the COBOL Program Documentation problem with Release 2.3 of Control/DCD. Introducing the Digital Documentation Manual. A .pdf manual created on the mainframe for use with any PDF Reader software regardless of computing platform. The DDM is usable documentation on any PC, iMac, Tablet or Cellphone. Its anywhere documentation. Now IT can store documented applications in collaborative systems like Share-Point.

IBM estimates that there is now around 250 billion lines of COBOL code being maintained throughout the world. These are mainframe production applications that store and process as much as 70% of the world's Enterprise Data. Now with the delivery of new Enterprise Compilers like COBOL 6.2 migration challenges exist.

Did you know……

Marble Computer has been in business since 1983.

Control/DCD creates Digital Documentation Manuals for COBOL programs.

The Problem: A Typical COBOL Program Listing via Notepad on PC

The Solution for Legacy COBOL is the Digital Documentation Manual

A .pdf document created on the mainframe and useable with any PDF reader, anywhere, anytime on any device.

Sample Output

Data Element Information

```
(0051) SORT-TYPE-SEQ-1
In 1-1 of 01 SORT-RECORD in WORKING-STORAGE
05 SORT-TYPE-SEQ-1 Pic X(001)
```

Performed Hierarchy for Above Data Element

```
    01      N-SORT-INPUT-PROCEDURE
     02       N500-WRITE-OUT-SORT-RECORD THRU N599-EXIT
     02       N220-MATCH-FOR-MATCH THRU N299-EXIT
      03       N410-TEST-SEQ-IN-IPT-RANGE THRU N410-EXIT
       04        S-DO-FINAL-ADJUSTMENT
     02       P-SORT-OUTPUT-ROUTINE
      03       P110-CLEAR-QVW-LINE thru P195-EXIT
    01      R-CORRECT-MAST-CODE
```

Control/DCD

The new way to manage the mainframe source code environment.

With over 35 years of mainframe experience Marble Computer is taking the legacy of it's DCD product line and utilizing the most advanced techniques for programmers to document and understand a programs logic and business rules.

Program modifications and repairs are made quickly, easily and accurately.

For more information:

Call (800) 252-1400 to arrange for a demo.

Marble Computer is an IBM Business Partner for z/OS Software.

Control/DCD
How It Works:

Control/DCD creates a new powerful way to use the ISPF editor that makes it simple for the COBOL programmer to quickly understand the flow of the program as to data and process. Business rules are easily interpreted, data analysis is made simple, dead code is found.

Choose your output, ISPF viewer versus a Documentation Manual. The Digital Documentation Manual comes in the standard .pdf format. Use FTP to transfer to any PDF reader on any device.

Sample command structure:

Find &(Operand)

Some **Operand** Examples:

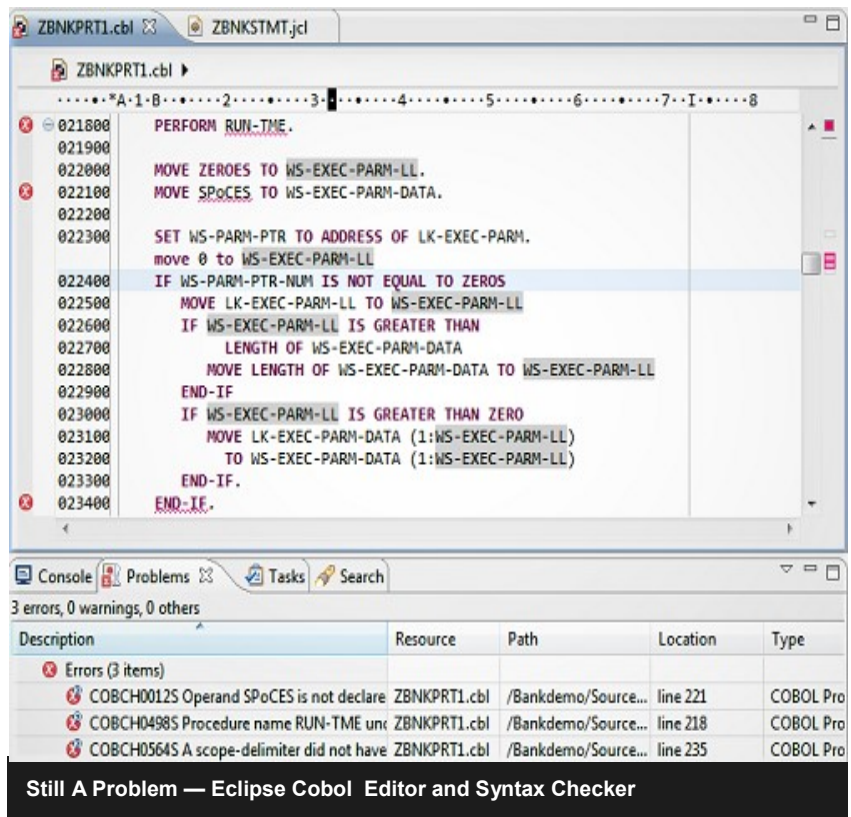DATA-NAME

CALL

COPY

CODE-NOT-USED

ERRORS

FORWARD-TRACING

OPEN

PERFORM-ANALYSIS

PERFORMED-ROUTINES

SQL

HELP

Still A Problem — Eclipse Cobol Editor and Syntax Checker

Sample DDM Output (Continued)

Data Usage in Each Performed Routine For SORT-TYPE-SEQ-1

```
N-SORT-INPUT-PROCEDURE

    MOVE '1' TO SORT-TYPE-SEQ-1 (332), '2' TO SORT-TYPE-SEQ
    (335), '3' TO SORT-TYPE-SEQ-1 (340,362)
N220-LOOK-FOR-MATCH

    MOVE '6' TO SORT-TYPE-SEQ-1 (394), '2' TO SORT-TYPE-SEQ
    (403)
N410-TEST-SEQ-IN-IPT-RANGE

    MOVE '7' To # SORT-TYPE-SEQ-1 (414)
N500-WRITE-OUT-SORT-RECORD

    MOVE '8' TO # SORT-TYPE-SEQ-1 (454)
P110-CLEAR-QVW-LINE

    IF SORT-TYPE-SEQ-1 NOT = '3' (478)

    IF SORT-TYPE-SEQ-1 = '1' (500)
S-FINAL-ADJUSTMENT

    IF 'S' = SORT-TYPE-SEQ-1 (651)
Indirectly Used @ (50)
```

Control/DCD's Benefits

Adds an Intelligent COBOL Analytical capability to your Legacy Modernization Project.

A simple command structure, with the addition of one character (An & character) added to the Find Command that works with a program's data names, paragraph names, and more. So the adoption rate is fast and efficient.

The Digital Documentation Manual is an up to date detailed guide of the COBOL program's analytics. The DDM can be stored on collaborative intranets like SharePoint. The DDM is updated with each modification change when used with Control/DCD.

No compile is necessary prior to using Control/DCD. Control/DCD acts as a pre-compiler. Let Control/DCD catch the 6 major Areas of Concern for COBOL 6.2. Focus on finding errors with Invalid Data, Parameter/Argument, Occurs Depending errors and table overflow issues.

Reduce COBOL 6.2 Compile times and produce more optimized code. Get the benefit of your MSU/MIPS reclamation project.

Analyze an entire application to find potential and real errors in COBOL code. Plan a change in field size knowing all uses of the field are found. Learn where data elements are modified in the application and under what conditions.

Control/DCD's Data Tracing Analysis function means less Job Failures which creates better utilization of the production environment, makes life easier for Job Schedulers and those that support Job Scheduling systems.

Marble Computer software products are z/15 compliant, support z/OS V2.4 and COBOL Version 6.2.

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