



Using ODBC from DC-COBOL and BATCH COBOL

VG-COBOL Precompiler Overview

VEGASOFT



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Overview

- ◆ Enables COBOL applications to access and update
 - CA-IDMS/DB
 - IBM DB2
 - ODBC-compliant databases (via VG-ODBC Server)
- ◆ Supported environments
 - DC-COBOL
 - BATCH COBOL



Overview

- ◆ Runs in BATCH
- ◆ Embedded SQL
 - DB2 SQL COBOL
 - ODBC target DBMS
- ◆ ODBC functions
 - DATABASE(), CURDATE(), etc.
- ◆ Target DBMS functions
 - TO_NUMBER, TO_CHAR, etc.
- ◆ Bulk fetch in ODBC



SQL Access Mode

- ◆ Dynamic SQL
- ◆ Stored procedures are supported in ODBC
 - input, output and return parameters
 - a single result set
 - automatic bulk fetch



Using the Target DBMS

- ◆ Precompilation against the target database
 - Enable/disable in Options Table
- ◆ Problem
 - some ODBC drivers may execute SQL statements in SQLPrepare function



Using the Target DBMS

- ◆ If enabled
 - SQL tables must exist in the target system
 - most of the errors are detected at precompilation time
- ◆ If disabled
 - errors are detected at run-time
 - syntax errors
 - data conversion errors
 - result set definitions are built using FETCH and SELECT INTO

Precompiler parameters

- ◆ **DEBUG=YES/NO**
 - enable only if we needed by us
- ◆ **GENCOM**
 - automatically generates CA-IDMS COMMIT/ROLLBACK
- ◆ **LINES**
 - lines per page in the output listing
- ◆ **LIST**
 - Errors/SQL/Y(all source statements)

Precompiler parameters

◆ RUNENV

- Batch
- IDMS
- X
 - run time environment is resolved at link edit phase

◆ SQLKWD

- SQL keyword recognized by the precompiler
- default is in Options Table

Link Edit Considerations

<u>RUNENV</u> <u>parameter</u>	<u>Execution</u> <u>Environment</u>	<u>Reference</u>	<u>Resolved by</u> <u>INCLUDE of</u>
Batch	Batch	MSQLBINT	MSQLBINT
IDMS	CA-IDMS/DC/UCF	MSQLDINT	MSQLDINT
X	Batch	MSQLXINT	MSQLBXNT
	CA-IDMS/DC/UCF	MSQLXINT	MSQLDXNT
All	All	MSQLEDIT	MSQLEDIT
All	All	MDB2EV01	MDB2EV01

Extended Unit of Work

- ◆ Unit of Work starts upon the first executable SQL statement
- ◆ Control verbs terminate the Unit of Work
 - STOP RUN, GOBACK, EXIT PROGRAM, TRANSFER (no return), DC RETURN
- ◆ To extend the Unit of Work
 - insert the following statement immediately before a control verb
 - MOVE 'Y' TO WDB2EXT

Abnormal end of Unit of Work

- ◆ CALL to a sub-program
 - if there is no SQL, Unit of Work continues
 - if control does not return, application abends
 - solution
 - insert CALL 'SQLDALC' before calling the sub-program



System Requirements

- ◆ COBOL compiler
 - OS/VS COBOL
 - COBOL II
 - COBOL/MVS
- ◆ To access DB2
 - VG-IDMS/DB2 Batch Server (CAF)
 - IBM DB2 V2R2 or later

System Requirements

- ◆ To access ODBC
 - ODBC compliant DBMS System
 - 32bit ODBC driver
 - VG ODBC Server
 - If TCP/IP is used
 - VG-IDMS Gateway TCP/IP Option
 - TCP/IP Systems Software for OS/390 (IBM or CA-NetworkIT TCPAccess)
 - If APPC is used
 - CA-IDMS-DC 10.2x or later
 - MS SNA Server 2.11 or later



End of Presentation

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