# Connectivity between DB2 VM/VSE Clients to DB2 LUW servers

## World Alliance of VM and VSE 2008

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# Agenda

Section 1

Introduction to connectivity from DB2 VM/VSE client to other DB2 servers

Section 2

SQL function compatibility issues between DB2 VSE/VM Resource Manger and DB2 on other platforms

# Introduction to connectivity from DB2 VM/VSE client to other DB2 servers

- VM Requester Setup

- VM Requester Configuration for TCP/IP

- Sample COMDIR Entry for TCP/IP

- VSE Requester Setup

- Sample DBNAME Entry for TCP/IP

# VM Requester Setup

- DRDA code must be enabled by doing optional post installation steps.

- Update COMDIR with IP address, TCP port and user id information

- Run SQLINIT PROTOCOL (AUTO or DRDA)

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# DB2/VM Requester Configuration for TCP/IP

- Create ARICTCP MODULE

- Create new CEEPIPI MODULE

- LINK and ACCESS TCP/IP client disk

- Determine target server IP address and port number

- Update COMDIR file

- Start the DB2/VM requester

# Sample COMDIR Entries for TCP/IP

:nick.TCPVM3   :service.SQLMACJD

　　　　　:host.9.89.24.109

　　　　　:security.PGM

　　　　　:userid.USERID

　　　　　:password.PASSWORD

　　　　　:dbname.SQLMACJD

# VSE Requester Setup (via TCP/IP)

- TYPE=REMOTE (in DBNAME directory) defines a remote database server.

- Must contain DBNAME (and optionally ALIAS) entries.

- Must contain TCPPORT entry to define which port the target database server is listening on for incoming TCP/IP connections.

- Must contain either

  – IPADDR entry to define the IP address of the target database server

  or

  – TCPHOST entry to define the host name of the target database server

- May contain SYSDEF entry to define a system default.

- May contain PARTDEF entry to define a partition default.

# Sample DBNAME Directory entry

TYPE=REMOTE

DBNAME=SAMPLE

ALIAS=DB2NT_TCP

TCPPORT=50000

IPADDR=9.9.9.9

SYSDEF=N

PARTDEF=F4

CONNPOOL=Y

PWUPPER=Y

PWDENC=N

# SQL function list and compatibility between DB2 (VM/VSE) and DB2 (LUW)

- AVG, COUNT, MAX, MIN, SUM functions works the same

- CHAR(time-expression), CHAR(timestamp-expression), CHAR(date-expression) functions work the same if the date-time format chosen is the same

- CHAR(decimal-expression) Not working the same. For DB2/VSE&VM, a leading blank is added if the decimal expression is positive. Whereas UDB (LUW) requires a trailing blanks to be added if the decimal expression is positive. An APAR will be created to change the behavior of this function.

- DATE function works the same if the date format chosen for the database is the same for both

- DAY, DAYS functions works the same

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# SQL function list and compatibility between DB2 (VM/VSE) and DB2 (LUW) (..contd)

- DECIMAL, DIGITS functions work the same
- FLOAT        function works the same except for the display format.
- HEX            Function returns EBCDIC character in case of DB2 on VM/VSE while ASCII in the case of DB2 on LUW
- HOUR          function works the same
- INTEGER     DB2 for VM/VSE supports only numeric arguments while DB2 on LUW supports numeric,character-string,date and time expression as argument
- LENGTH      function works the same
- MICROSECOND     function works the same
- MINUTE, MONTH, SECOND          function works the same
- STRIP          Function Not supported in the case of DB2 on LUW
- SUBSTR       function works the same
- TIME          function works the same if the time format chosen for the database is the same for both

# SQL function list and compatibility between DB2 (VM/VSE) and DB2 (LUW) (..contd)

- TIMESTAMP      function works the same
- TRANSLATE      function works the same
- VALUE     function works the same
- YEAR        function works the same

SQLAM support:

DB2 VM is at SQLAM 5. It will remain at SQLAM 5 till we make developmental changes to the DRDA code to bring it up to SQLAM 7. However, any database client/server that is at a higher SQLAM level ( like DB2 for z/OS ) will deprecate itself to SQLAM 5 when talking to a lower DB2 client/server . In effect, everything SQLAM 5 allows you to do , will still be possible with a DB2 VM --> DB2 z/OS connection. All the SQLAM 7 functionality present on DB2 z/OS will be ignored.

# SQL statements incompatible with LUW servers

- Difference of SQLAM versions result in a few SQL statements not getting preprocessed against VM/VSE servers. We intend to have a crack at this using the ERROR option in PREP and DBSU to pass on the SQL's directly to the remote server which cannot be preprocessed on VM/VSE servers

- There are a few restrictions with the usage of Extended Dynamic SQL Statements over DRDA

# SQL statements incompatible with LUW servers

- Switch from EBCDIC to ASCII codepage implies changed collating sequence.
  - affects sort order
  - BETWEEN clauses

==> Use EBCDIC collating sequence for DB on Linux?

- Use of double or multi byte codesets may lead to application problems
  - DB2/LUW fixed characters specify the byte length!

==> Use SBCS codepages for DB on LUW

Q & A

# Thank You.

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