



IBM Software Group

IBM WebSphere® Data Interchange V3.3

Remote Command Execution: Server



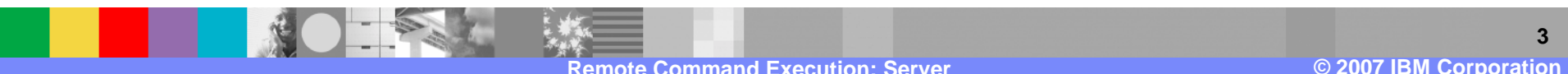
@business on demand.

Goals

- Sketch out the Remote Command technology
- Describe operating system specific differences
- Outline steps for verification and problem determination

Agenda

- Overview
- Execution
- Setup
- Problem determination
- Summary



Overview



Design Requirement

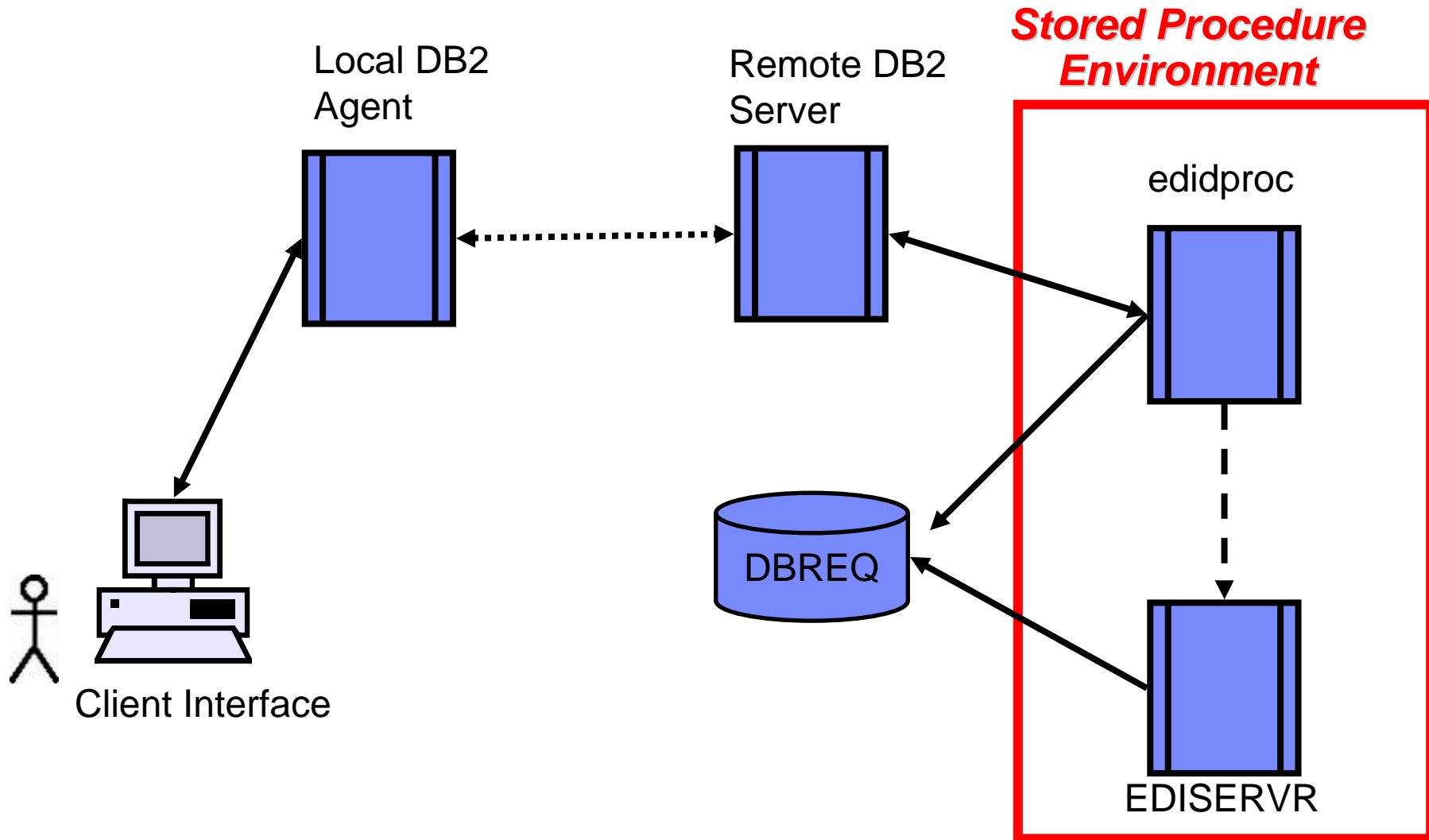
- For WebSphere® Data Interchange 3.3, the z/OS Facility will be replaced by adding comparable function (Transaction Store capabilities) to the WebSphere® Data Interchange Client.
 - ▶ Access the command interface from a local host
 - ▶ Allow blocking and non-blocking calls
 - ▶ Provide feedback to the user console



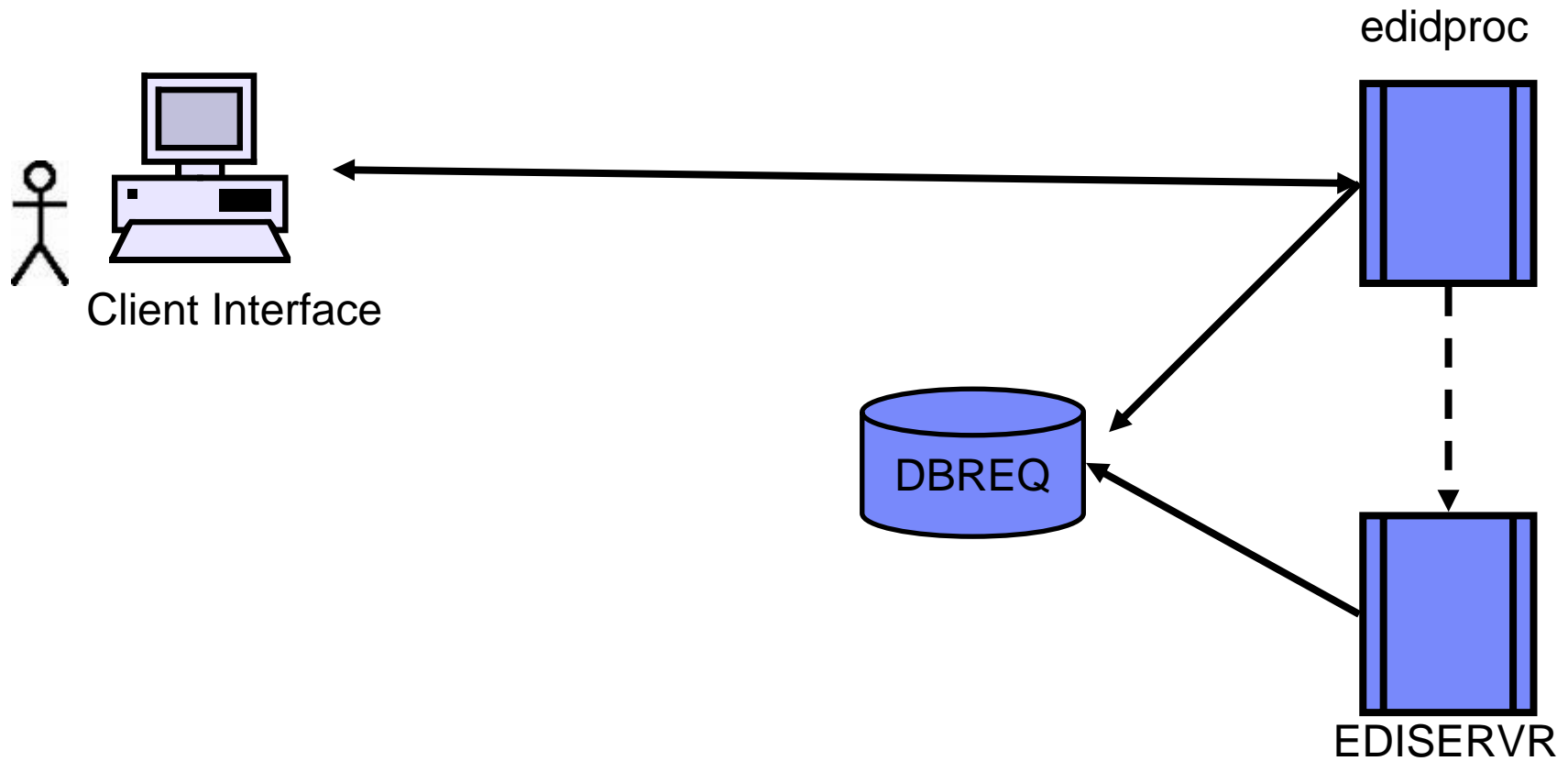
Implementation

- Client connects to remote DB2 using ODBC
- Single executable program, edidproc, runs as a DB2 stored procedure
- The stored procedure passes a complete command script to command interface, ediservr
- DB2 definitions give different interfaces to support blocking (debugging) and non-blocking (batch) executions
- DB2 tables share data with the Client

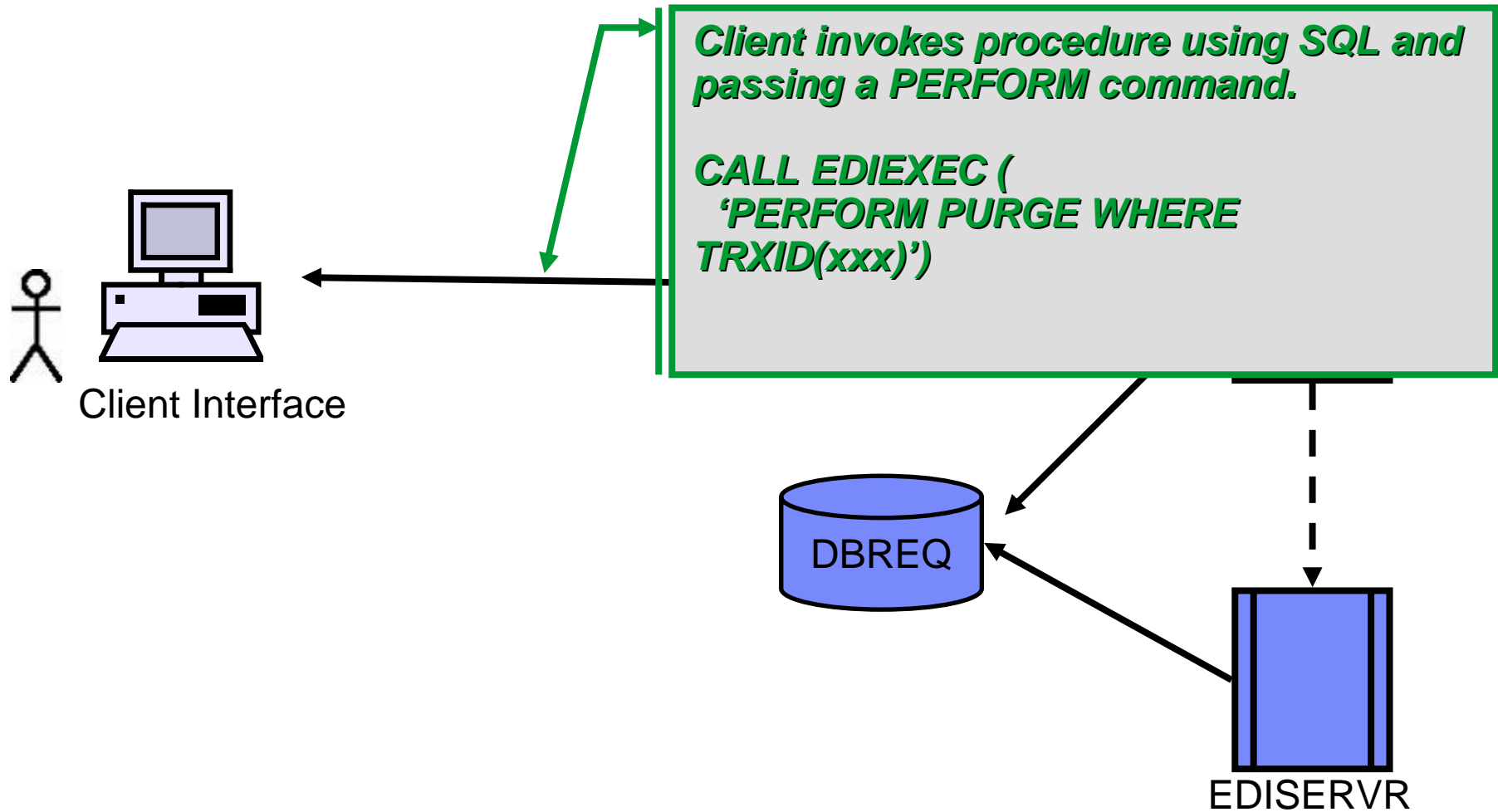
Graphical Discussion Context



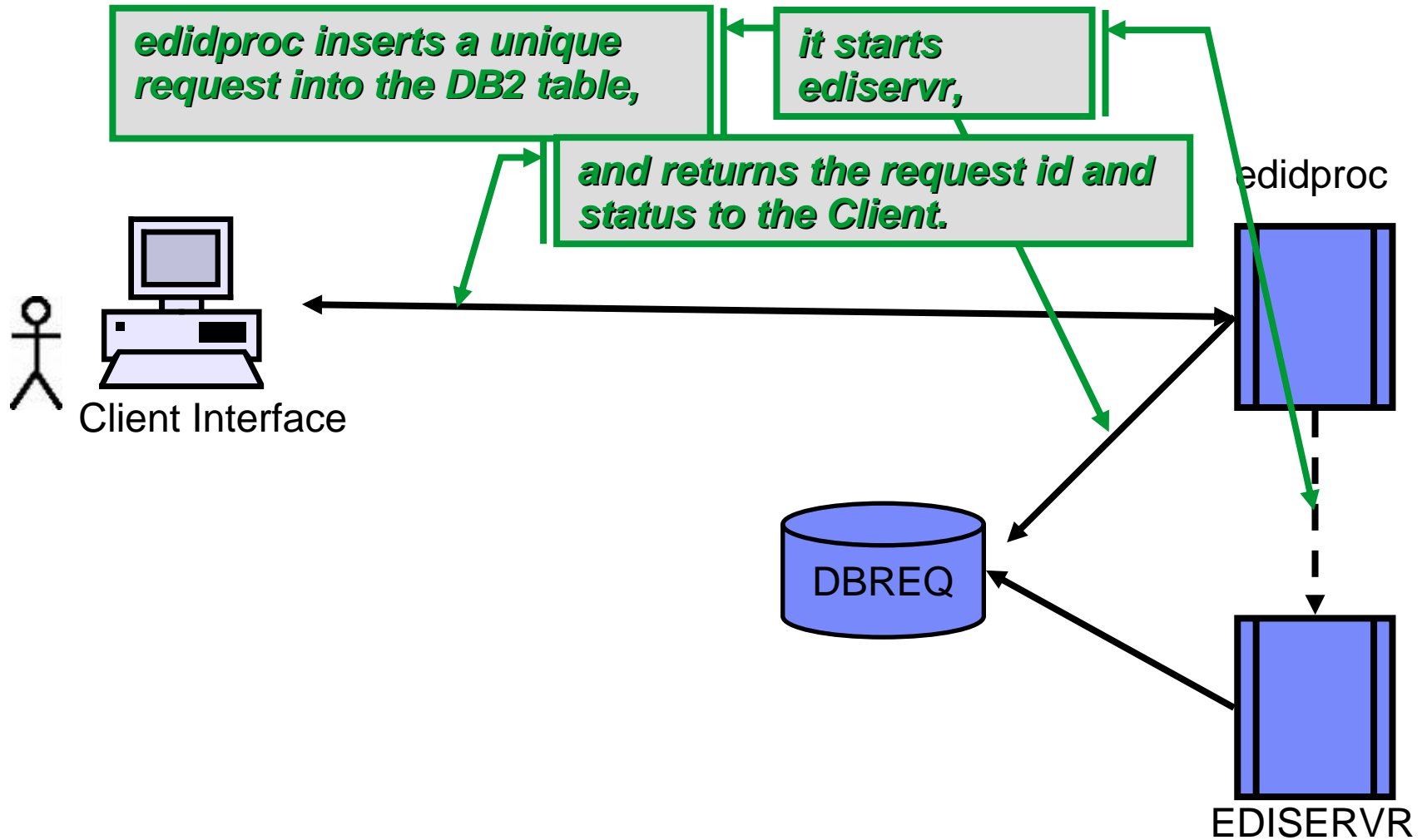
Normal Execution



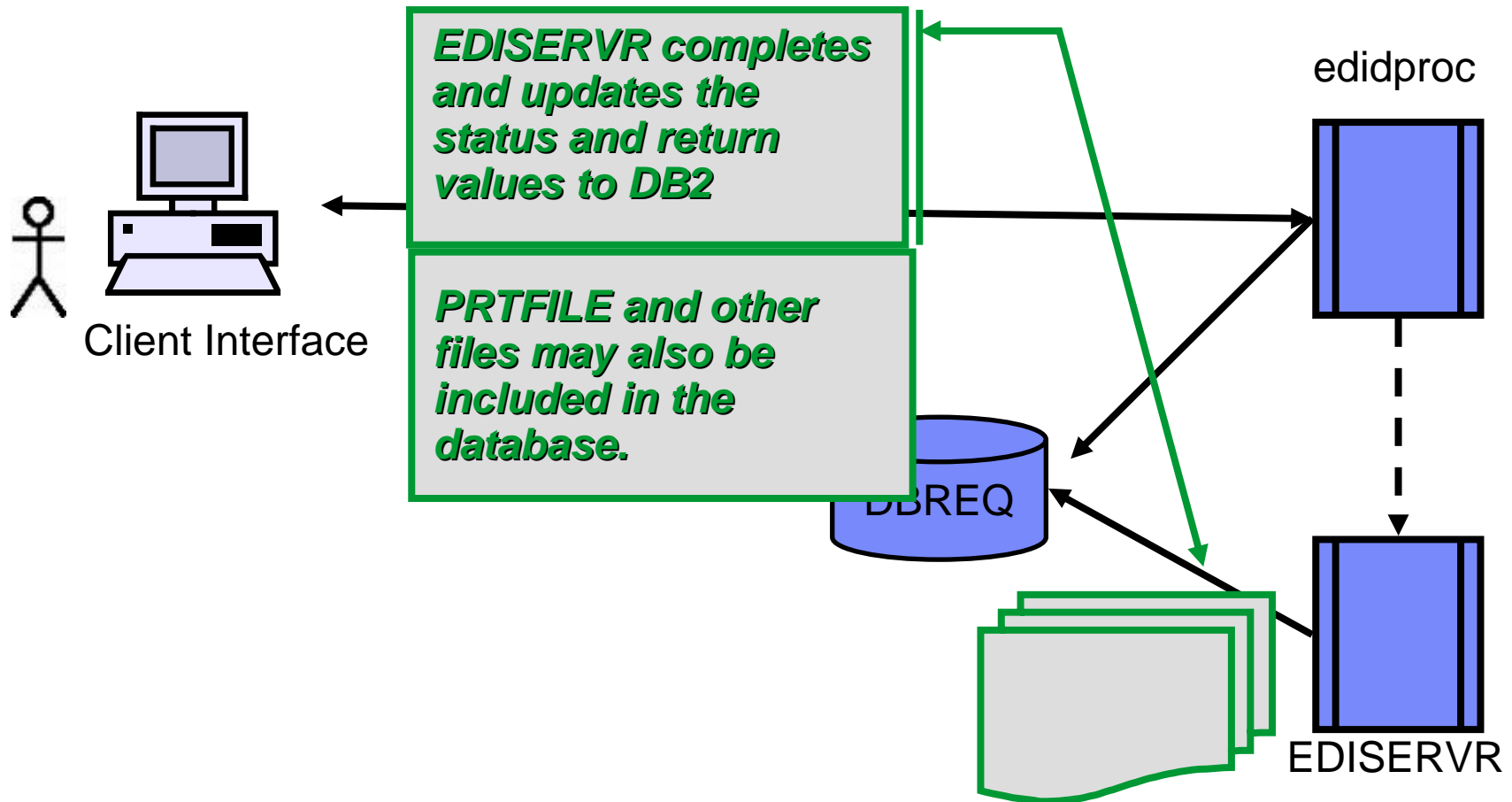
Normal Execution



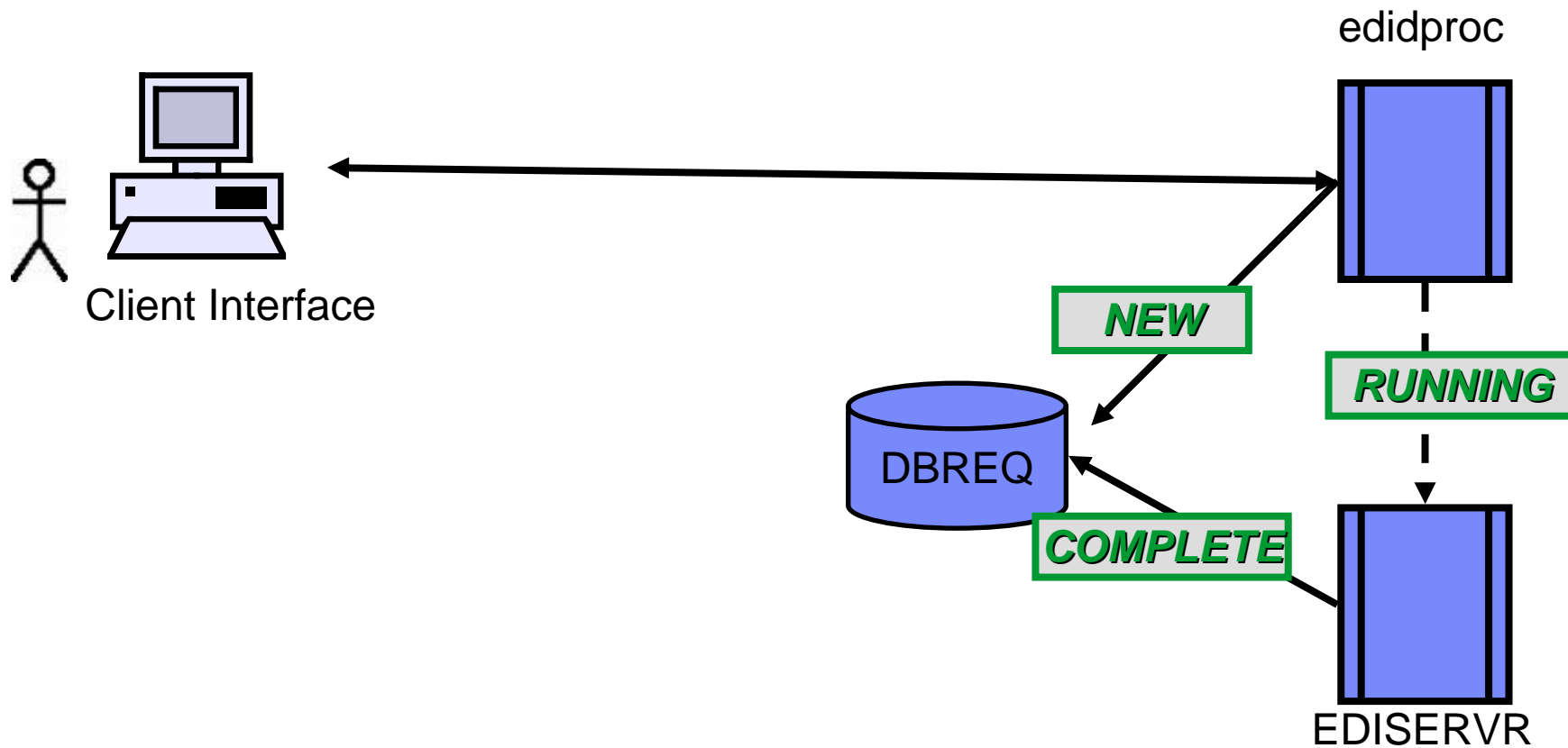
Normal Execution



Normal Execution

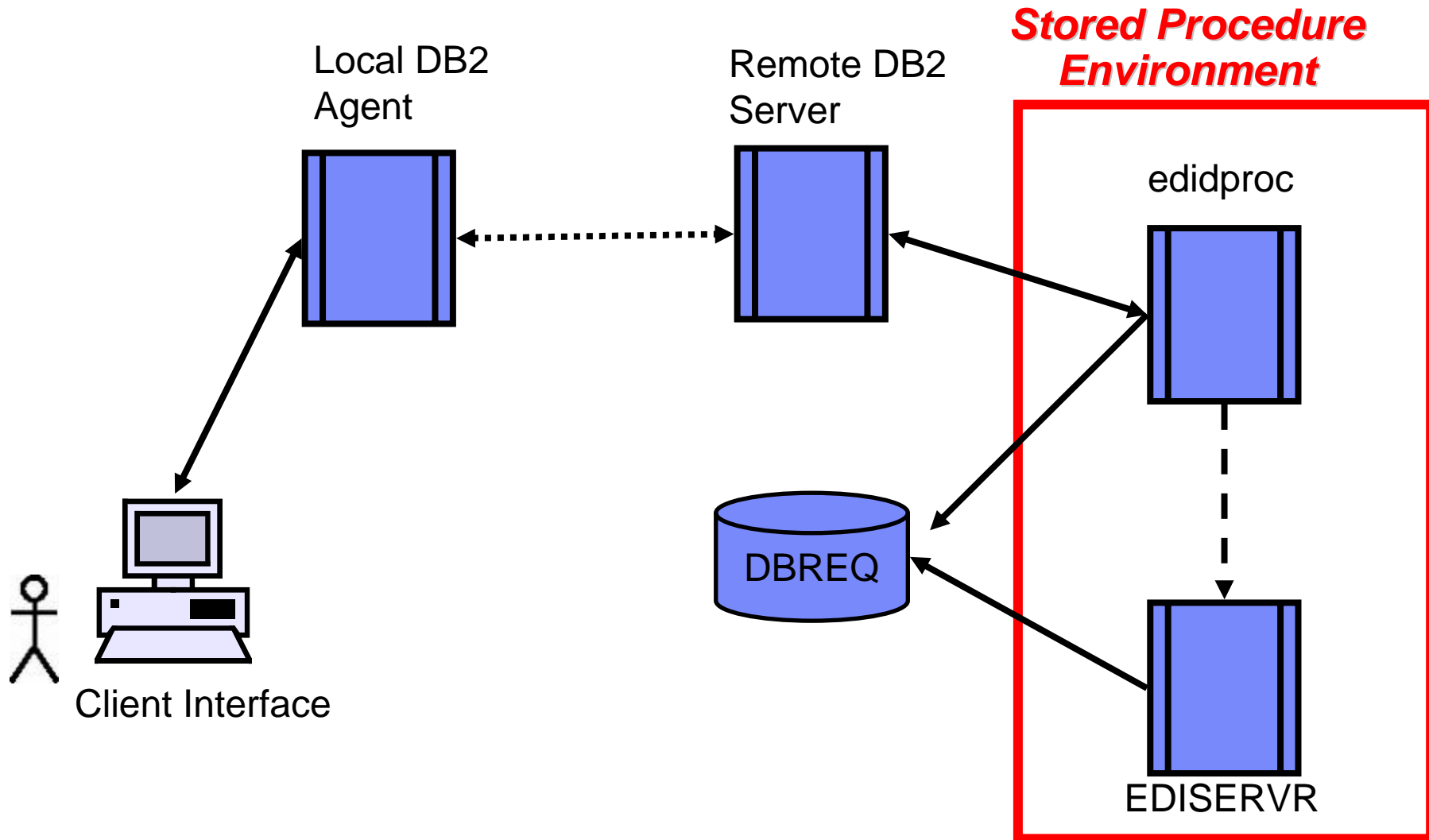


Request Status



Setup

DB2 Stored Procedure Execution Environment



Installation DB Setup from DDL

- Contains “Create Procedure” statements
- Associates stored procedure interfaces with “edidproc” – ADDREQ, EDIEXEC1, EDIEXEC2
- Defines stored procedures as FENCED
- Only on z/OS
 - ▶ associates stored procedures with a WLM region
 - ▶ defines the package / collection with edidproc DBRM
 - ▶ ties the stored procedures to DB2’s User ID

A stored procedure runs as a User

- Probably the default user
 - ▶ Windows: “db2admin” ; AIX: “db2fenc”; z/OS: defined in RACF for Started Procedures
- This User owns the DB2 execution environment
- User must have appropriate privileges
- User must have correct environment set up

Windows Setup

- PATH must include *WebSphere® Data Interchange*
 - ▶ *Include XML4C directory if necessary*
 - ▶ *PATH limited to 512 characters*



AIX Setup

- PATH and LIBPATH set before DB2 START
 - ▶ db2set DB2LIBPATH=\$LIBPATH
 - ▶ db2set DB2LIBPATH=\$LIBPATH
 - ▶ Contained in setdienv.sh
- Symbolic link required for DB2 to find the 'edidproc' shared object
 - ▶ In `-s ${DIROOT}/bin/libedidproc.so`
`${DB2INSTANCE}/sqlib/function/edidproc.dl`

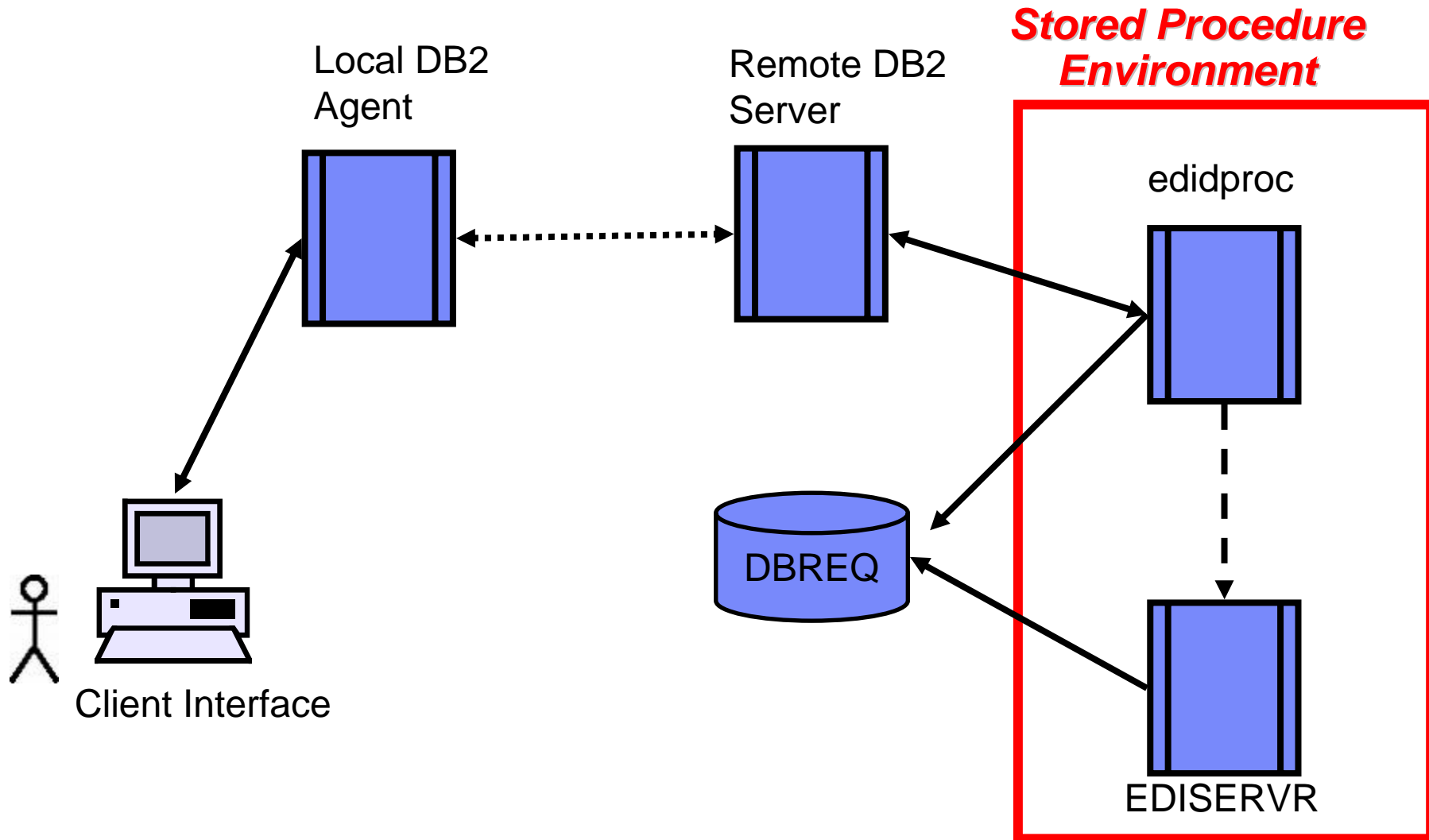
z/OS Setup

- Workload Manager administered
 - ▶ STEPLIB DD must include WebSphere® Data Interchange and XML4C
 - ▶ EDITSIN DD defines DB2 Subsystem and Plan
- User must have OMVS segment in RACF
- Link to EDISERVR required in HFS \$HOME



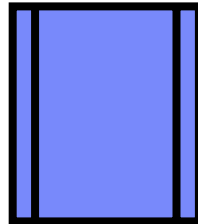
Problem Determination

Points of Failure returning SQL errors

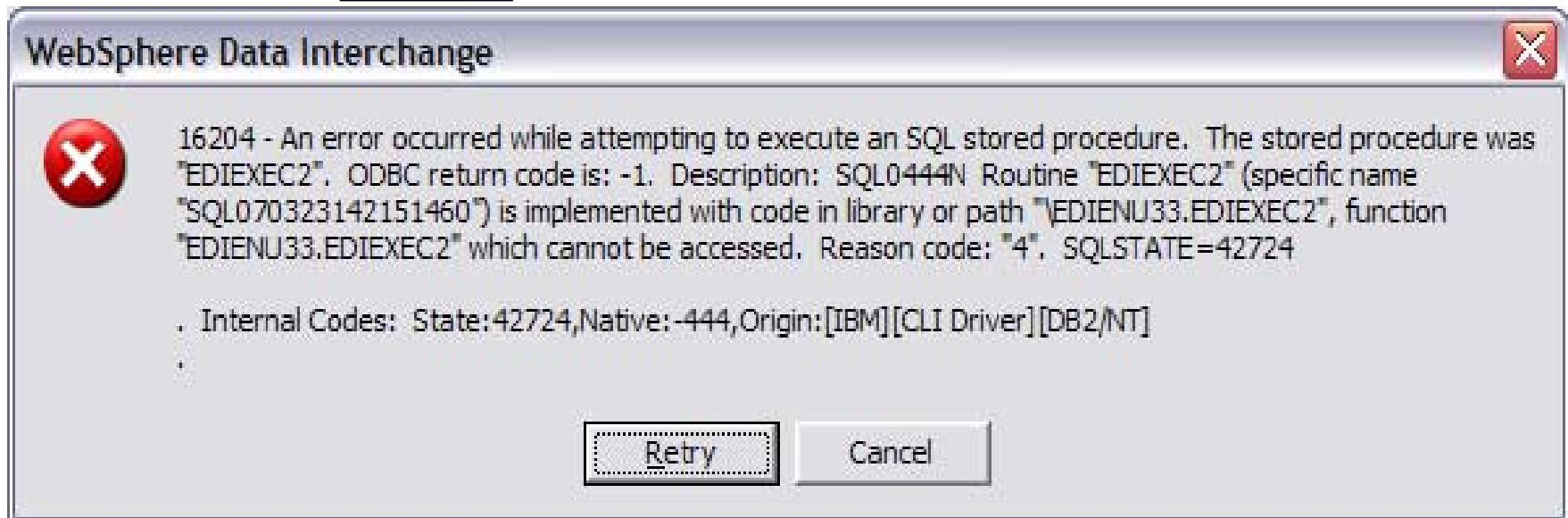
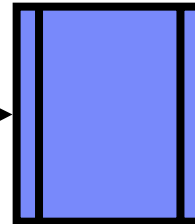


Stored Procedure Definition Problems

Local DB2
Agent

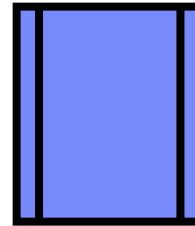


Remote DB2
Server

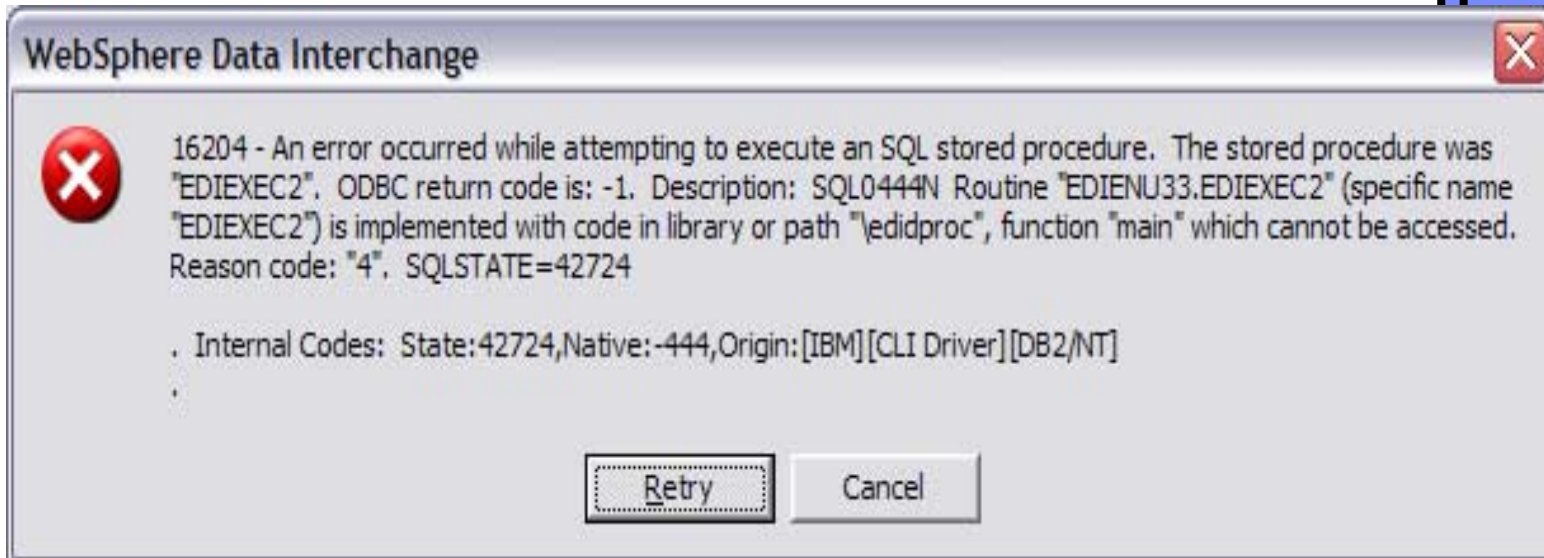
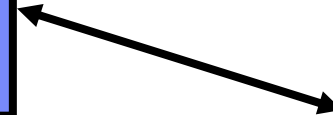
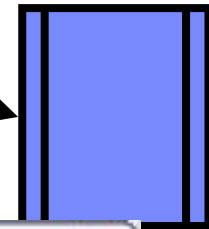


edidproc location

Remote DB2
Server

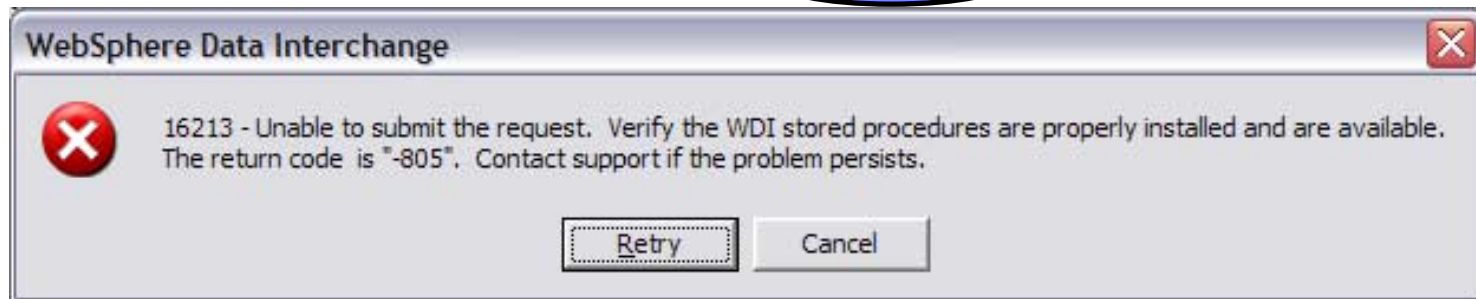
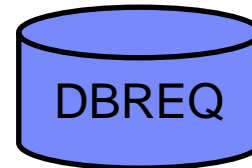
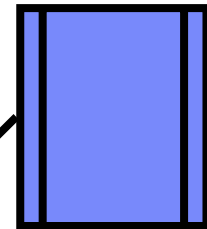


edidproc



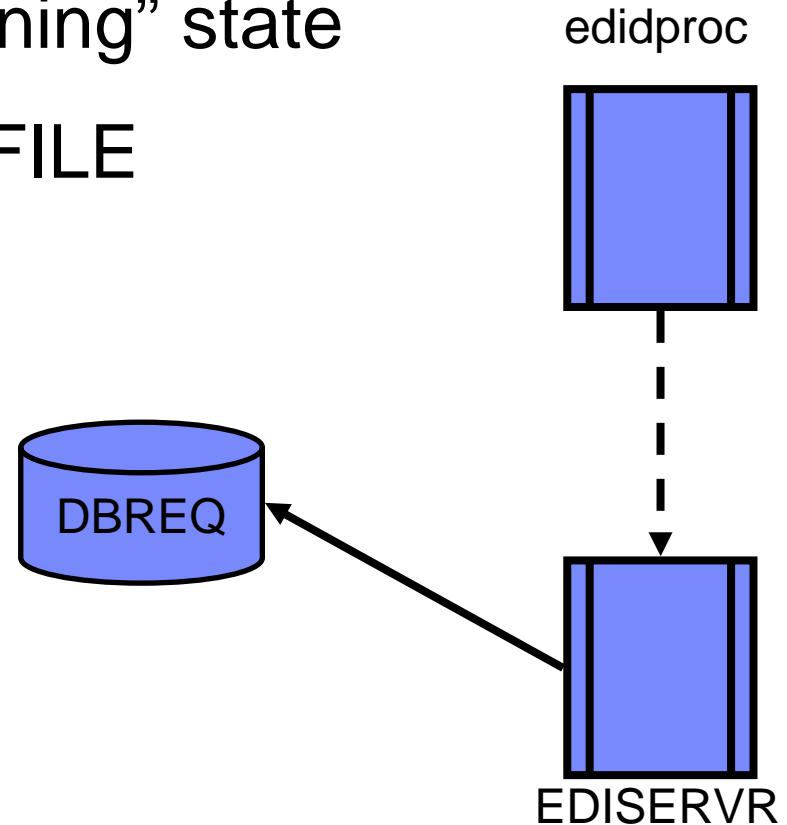
edidproc table insert

edidproc



Failures after the submit

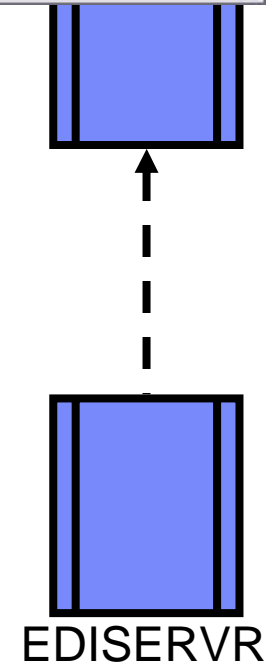
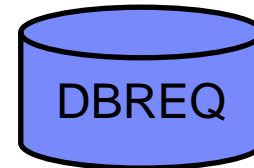
- No SQL code returned
- Submission stays in “running” state
- Submission has no PRTFILE



Generating the edidproc log

- Create directory “/tmp/edidproc”
 - ▶ HFS file on z/OS
 - ▶ Default drive for Windows – c:\tmp\edidproc
- Allow write permissions for the stored procedure User
- Unique files created for each submission
- Logs appended to PRTFILE visible in Client
- Stored procedure calls **block** and display return code from EDISERVR

Client returns API return code



Scan for obvious error in the log text

ediproc(408): entering startSession()

*ediproc(1223): runAsyncScript() wrote
set plan(EDIEC33E) session(497);init;*

*ediproc(1237): runAsyncScript() wrote
set file(PRTFILE,&DB);
set file(PRTFILE,/bad/directory.name);
PERFORM BOGUS;*

ediproc(1253): runAsyncScript() wrote

;

term;

ediproc(1265) Block?: 0 errno:0 ExitCode:999

ediproc(1273) waiting on:272

DI Translator Started, build date: Jan 30 2007

DI Translator Error. RC=8, ERC=32

syntax error: ;

DI Translator shutdown

ediproc(1299) Block?: 0 errno:0 ExitCode:8 8

ediproc(1505): after runAsyncScript() 8

edidproc(1517):returning session: 497 rc: 8

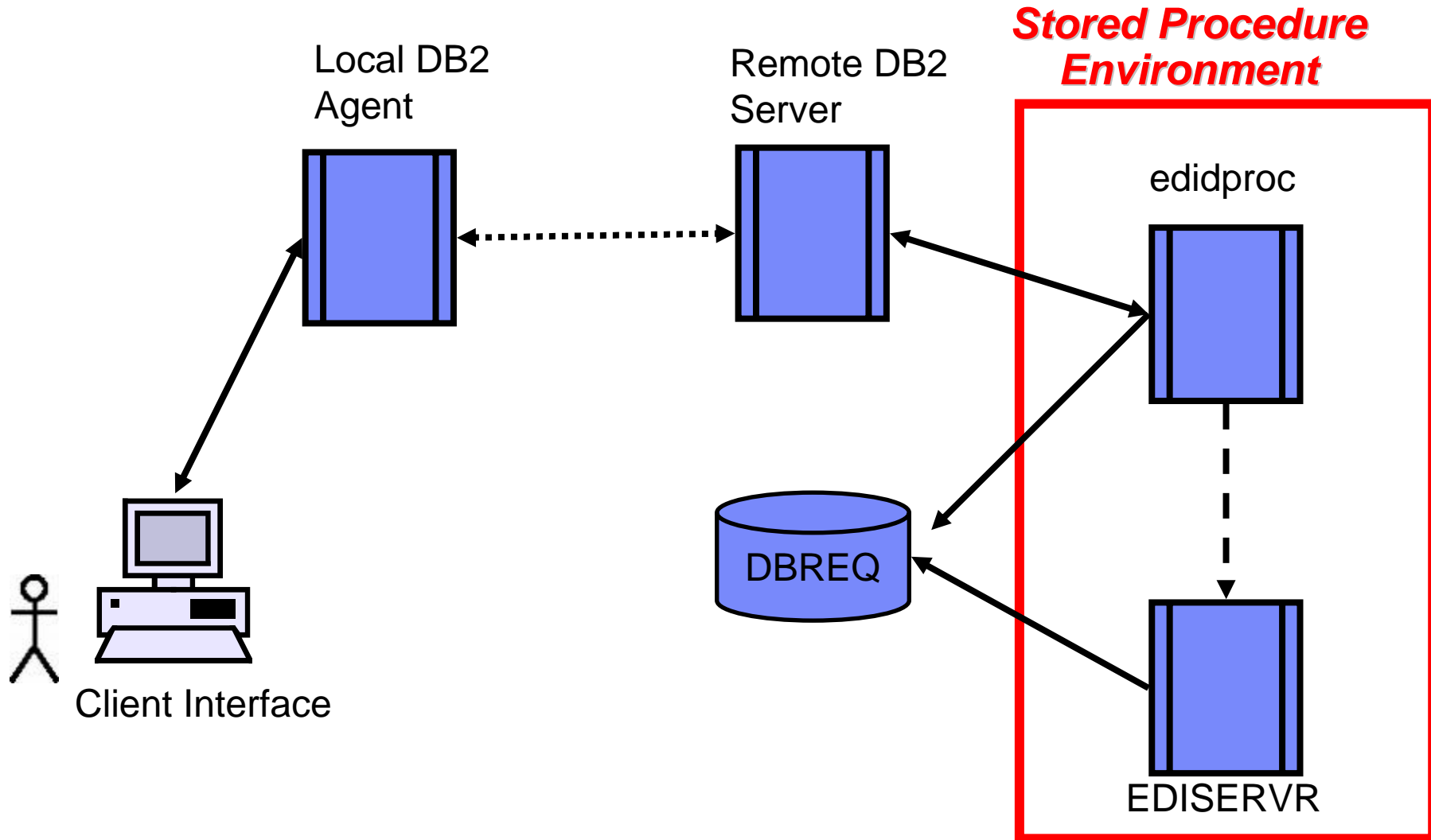


Summary

Summary

- Implemented with DB2 Stored Procedure
- Invoked in “submissions” Client area and in Document Store features
- All requests follow the same process
- Any valid EDISERVR script is possible

Graphical Discussion Context



Some references

- *DB2 UDB for z/OS V8 Administration Guide*
Document Number: SC18-7413-02
- *WebSphere Data Interchange for z/OS Installation Guide Version 3 Release 3 Modification 0*
Document Number SC34-6269-01



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