

Smart / RRSAF

The cure for the batch Db2 blues



- **Simplify Db2 application development, maintenance and troubleshooting**
- **Ensure accurate jobstep return codes and SMF accounting**
- **Prevent SNAFUs in Db2 batch production**
- **Expand the commit scope to include all RRS compliant resources**
- **Vary COMMIT frequency dynamically**
- **Trace SQL, RRSAF and CAF activity flexibly**

Overview

Smart/RRSAF lets you run your Db2 batch applications using regular JCL, so they look and behave like regular OS jobs. Moreover, Smart/RRSAF fully supports IBM's Recovery Resource Services Attachment Facility (unlike TSO Attach) and does so without the need for user code to manage an explicit Db2 connection. Smart/RRSAF enables your applications to update Db2, MQ, IMS and/or any other RRS compliant resources within a single unit-of-recovery and implements a variable COMMIT frequency.

While TSO and DSN/RUN commands often mask abends and non-zero return codes in your Db2 applications, Smart/RRSAF applications return accurate jobstep completion codes. This ensures proper dataset disposition, correct execution of downstream jobsteps, and compatible operation with job schedulers and production control systems.

With TSO Attach, charge back statistics for all Db2 batch applications are lumped together under the TSO Terminal Monitor Program (IKJEFTxx). With Smart/RRSAF in contrast, SMF accounting records are properly charged to the application program.

You can migrate from TSO Attach to Smart/RRSAF without changes to source

code. Db2 batch applications that call their subroutines dynamically will run 'as is' while applications which issue static calls (such as COBOL modules compiled with the NODYNAM option) need simply be relinked. The Smart Conversion Facility (shipped with the product) lets you relink selected load modules or entire libraries to run with Smart/RRSAF.

Smart/RRSAF (the successor to Smart/CAF) is a seasoned and mature product that is successfully implemented in Fortune 1000 organizations worldwide. Smart/RRSAF is backed by our knowledgeable and responsive technicians who are available 24 hours a day, 7 days a week to keep your Db2 batch production running smoothly.

Benefits

- Simplify Db2 batch JCL
- Standardize on a single Db2 attachment for batch applications, stored procedures and Db2 ISPF dialogs
- Dramatically reduce run times with Smart/RRSAF's Parallel Thread Facility that lets you multitask and multithread the same program within a single jobstep
- Translate Db2 return, reason and abend codes into meaningful error messages

Benefits (continued)

- Interoperate with Smart/RESTART to achieve application restartability
- Permit unrestricted use of the ISPF SELECT service within Db2/ISPF dialogs
- Enable the use of OS Checkpoint/ Restart (which is not supported under batch TSO)

Features

- Write formatted RRSF traces to a file rather than search for these hex entries within a SYSABEND or SYSUDUMP dump
- Optionally write Smart/TRACES of application SQL calls, RRSF, CAF and IFI requests and/or Db2 commands
- Built-in monitoring and reporting facilities help identify problem SQL statements and improve performance
- Supports STEPLIB, JOBLIB and LINKLIST datasets as application program libraries
- Change Db2 subsystem and application plan names dynamically at run-time via Smart/RRSAF exits

Prerequisites

Smart/RRSAF operates with all releases of z/OS and Db2 for z/OS whose IBM support status is “current”.

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Execution JCL

Figure 1 shows JCL to run a Db2 batch application named EXAMPLE under the TSO Terminal Monitor Program by executing the DSN command and RUN sub-command.

```
//STEP1 EXEC PGM=IKJEFT01,DYNAMNR=20
//SYSTSIN DD *
        DSN SYSTEM(Db2P)
        RUN PROGRAM(EXAMPLE) PLAN(EXAMPLE) -
          PARS('Sample Parameters') -
          LIBRARY('USER.RUNLIB.LOAD')
//SYSTSPRT DD SYSOUT=*
```

Figure 1: JCL to run a Db2 batch application under TSO

In contrast, Smart/RRSAF applications run as standard OS jobs (as illustrated in Figure 2) so you can pass parameters directly on the EXEC statement. The standard MVS search order is *always* used to avoid the confusion that can occur with the DSN LIBRARY parameter.

```
//STEP1 EXEC PGM=EXAMPLE,PARM='Sample Parameters'
//STEPLIB DD DSN=USER.RUNLIB.LOAD,DISP=SHR
//RAINPUT DD * <-- Optional Smart/RRSAF runtime parameters
        SYSTEM(Db2P)
//
```

Figure 2: JCL to run a Db2 batch application with Smart/RRSAF

With Smart/RRSAF, the default Db2 plan name is the same as the program name, whereas the default Db2 subsystem is defined at installation time. More than one copy of Smart/RRSAF can be installed, each with its own set of defaults. Alternatively, the Db2 subsystem name and other runtime directives can be specified explicitly through an optional RAINPUT file.

Smart/RRSAF writes its messages directly to the JES listing (as shown in Figure 3) or to an optional message file. You can see at a glance what happened with the jobstep - and what, if anything, went wrong.

```
----- JES2 JOB STATISTICS -----
.....
DCA010I - Smart / RRSF has connected to Db2 subsystem Db2P
DCA011I - Thread created for application plan EXAMPLE
DCA014I - Thread for application plan EXAMPLE terminated NORMALLY
DCA015I - Smart / RRSF has disconnected from Db2 subsystem Db2P
DCA016I - Smart / RRSF processing completed
IEF142I RAI1 EXAMPLE - STEP WAS EXECUTED - COND CODE 0000
```

Figure 3: Smart/RRSAF messages