

# Thread / STOPPER

*Gracefully cancel Db2 threads*



- Resolve Db2 problems fast, *before* users start calling the help desk
- Cancel Db2 problem threads safely and with minimal impact
- Cancel all threads accessing a Db2 object so a job or utility can run without contention
- Halt runaway queries
- Control threads better than RLF or the QMF governor
- Immediately cancel inactive database access threads
- Gracefully cancel TSO Attach threads without causing 04E/00C50109 abends

## Overview

Operational mistakes, network failures, application errors and runaway queries are inevitable. The “problem” Db2 threads that often result can consume considerable system resources, create serious contention problems and impair the performance and availability of critical systems and data. Thread/STOPPER lets authorized users cancel such problem threads gracefully — *before* they impact your system and disrupt large numbers of users.

Although IBM improves the Db2 CANCEL command with each release, cases remain where CANCEL doesn't work:

- The CANCEL THREAD and CANCEL DDF THREAD commands have no effect unless a thread is processing in Db2. Threads executing within an application, VTAM or TCP/IP don't terminate.
- The Db2 and QMF governors only limit individual instances of dynamic SQL statements. Statically bound applications and looping programs are not affected.
- Db2 "marks" an inactive database access thread (DBAT) as cancelled, but

cancellation is actually deferred until the thread becomes active again. Thread/ STOPPER can DROP the communication connections which underlie the thread to terminate the thread right away.

When threads fail to respond to normal Db2 cancellation processing, Thread/ STOPPER can issue Db2, z/OS, TCP/IP, SNA/VTAM, IMS and/or CICS commands – separately or in combination – to escalate cancellation and terminate the thread.

## Thread/STOPPER Facilities

- The *Thread/STOPPER Dialog* lets you monitor and cancel Db2 threads within an ISPF dialog.
- The *Console Facility* accepts Thread/ STOPPER commands from the MVS console.
- The Batch Facility executes Thread/ STOPPER commands within a batch jobstep. For example, a Thread/STOPPER batch jobstep can clear the way for a Db2 utility or application to run without contention in the next step..

## Benefits

- Improve Db2 availability and performance
- Avoid forcible cancellation of TSO sessions that hold Db2 threads
- Prevent disruptions from ‘problem’ Db2 threads
- Present thread statistics in a concise display that obviates the need for Db2 monitors
- Eliminate the need to recycle the CICS and IMS Attachments to Db2
- Enable TSO users with canceled Db2 threads to remain in session
- Cancel problem threads before they degrade the system
- Provide a single point of control for multiple Db2 subsystems

## Features

- Supports all *local* and *distributed* threads including CICS and IMS transactions, remote connections, TSO and QMF sessions, batch applications and Db2 utilities
- Provides a detailed audit trail that describes *who* canceled *what* thread and *when*, *where* and *how* it was done
- Monitor and cancel inactive database access threads
- Cancel all threads accessing a particular Db2 object so a batch job or utility can run without contention
- Cancel Db2 editors without placing the TSO session in a wait state
- Swap out Db2 batch jobs as the active log runs out of space

## Prerequisites

Thread/STOPPER is an authorized program that runs with all releases of z/OS and Db2 for z/OS whose IBM support status is “current”.

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## Thread/STOPPER Operation

The Thread/STOPPER dialog starts with a summary of Db2 subsystems like the following:

```
V6.1 ----- Thread/STOPPER: Db2 seen from z/OS Z7L1 Row 1 to 11 of 11
Command ==> Scroll ==> HALF

- Data Sharing Group
Db2 Command Db2 SSID IRLM IRLM ZPARM IFCID Group Attach Mbr
SSID Prefix Ver Status SSID Procname module Encode Name Name LPAR

. DSN9 -DSN9 9.1 Active IRL9 DSN9IRLM DSNZPARM U
. DSN9 -DSN9 9.1 Active IRL9 IRL9PROC DSNZPARM S
. D9GA -D9GA 9.1 Active D9JA D9GAIRLM DSNZD9GA S D9G D9G Z7L1
. D9GB -D9GB 9.1 Active D9JB D9GBIRLM DSNZD9GB S D9G D9G Z7L1
. DAG DSGroup
. DAGA -DAGA 10.1 Active DAJA DAGAIRLM DSNZDAGA S DAG DA
. DAGB -DAGB 10.1 Active DAJB DAGBIRLM DSNZDAGB S DAG DAG Z7L1
. DAGC -DAGC 10.1 Active DAJC DAGCIRLM DSNZDAGC S DAG DAG Z7L1
```

### DB2 Subsystem Summary

You can qualify which thread(s) to display based on correlation ID, connection type, plan name and a variety of other criteria. You can request cancellation from the thread summary or view more detailed information about a thread and its currently executing SQL statement before deciding whether to cancel it.

```
----- Thread/STOPPER: Db2 Thread Summary --- Row 1 to 10 of 55
Command ==> Scroll ==> PAGE
TTS053 - (S)elect one or more threads or press ENTER to refresh summary display

Date: 07/07/31 Time: 17:22 MVS system: Z1L1

Db2 Correlation Db2 Plan Auth ID Connect Elapsed TCB time # of SQL Status
Name HH:MM:SS H:MM:SST Requests :Where
. DSN9 TS0ID1 RLXPLANC TS0ID1 Db2CALL 00:05:34 0:00:013 154 T :PGM
. DSN9 TS0ID2 QMF310 TS0ID2 Db2CALL 00:14:17 0:00:127 3426 T :Db2
. DSN9 TS0ID3 Db2EDIT TS0ID3 Db2CALL 01:23:46 0:24:862 11784 T :PGM
. DSN9 UTILJOB DSNUTIL BATCHID1 UTILITY 00:06:15 0:01:229 7245 T :Db2
. DSN9 PST@PSB PLANIMS LTERM001 IMSA 00:00:02 0:00:007 8 T :Db2
. DSN9 JOBNAME1 PLANAAAA USER1111 BATCH 00:31:26 0:08:231 14154 QD:Db2
. DSN9 JOBNAME2 PLANBBBB USER2222 BATCH 01:27:51 0:37:048 72862 TR:Db2
. DSN9 JOBNAME3 PLANCCCC USER3333 BATCH 00:52:08 0:26:012 45782 T :PGM
. DSN9 GT00TRN1 PLANXXXX TRAN1111 CICSREGA 00:00:04 0:00:014 67 T :PGM
. DAGA PT00TRN2 PLANYYYY TRAN2222 CICSREGB 00:00:06 0:00:021 102 T :Db2
. DAGA PT00TRN3 PLANZZZZ TRAN3333 CICSREGB 00:00:02 0:00:009 22 T :Db2
```

### Scrollable Thread Summary

**Let Thread/STOPPER solve your Db2 operational problems — today!**

**Contact us at  
800 776-0771  
www.relarc.com**