

z/OS V1R13

BCP GRS: IPCS enhancements

Overview

- Problem Statement / Need Addressed
 - Distinguishing a Reserve problem from the underlying ENQ is difficult
 - Grant timestamp represents both
 - Synchres=No possibility makes the issue worse
- Solution
 - Add a Timestamp for the Reserve's start of I/O
 - Add SynchRes indication in GRSTRACE report
- Benefit / Value
 - Improved diagnostics for Reserve problems

Usage and invocation

GRSTRACE Example, Reserve completed:

```
MAJOR NAME: SYSZJES2

MINOR NAME: SPOOL1SYS1.CASE#1

SCOPE: SYSTEM   SYSNAME: S1       STATUS: *EXCLUSIVE* /OWN
ASID: 00000029  TCB: 004E6D90   JOBNAME: GRSTOOL

Reserve Device: 027E Volser: TMPPAK - SYNCHRES COMPLETE

Critical ENQ Time(s):
Request:      07/21/2010 12:56:50.099689
Started I/O:  07/21/2010 12:56:50.099716
Grant:        07/21/2010 12:56:50.100263
```

GRSTRACE Example, Synchres=NO:

```
MAJOR NAME: SYSZJES2

MINOR NAME: SPOOL1SYS1.CASE#2

SCOPE: SYSTEM   SYSNAME: S1       STATUS: *EXCLUSIVE* /OWN
ASID: 0000002A  TCB: 004E6D90   JOBNAME: GRSTOOL

Reserve Device: 027D Volser: TMPPK1 - NOT SYNCHRES

Critical ENQ Time(s):
Request:      07/21/2010 13:02:03.623645
Grant:        07/21/2010 13:02:03.623672
```

GRSTRACE Example, I/O incomplete:

```
MAJOR NAME: SYSZJES2

MINOR NAME: SPOOL1SYS1.CASE#3

SCOPE: SYSTEM   SYSNAME: S1       STATUS: *EXCLUSIVE* /OWN
ASID: 00000029  TCB: 004E6D90   JOBNAME: GRSTOOL

Reserve Device: 0182 Volser: LOWDSD - WAITING FOR SYNCHRES TO COMPLETE

Critical ENQ Time(s):
Request:      07/21/2010 12:58:26.940649
Started I/O:  07/21/2010 12:58:26.940671
Contention:   0, BUT IS WAITING
```

GRSTRACE Example, Reserve with ENQ contention:

```
MINOR NAME: SPOOL1SYS1.CASE#4

SCOPE: SYSTEM   SYSNAME: S1       STATUS: *EXCLUSIVE* /OWN
ASID: 0000001E  TCB: 004E6D90   JOBNAME: GRSTOOL

Reserve Device: 027E Volser: TMPPAK - SYNCHRES COMPLETE

Critical ENQ Time(s):
Request:      07/21/2010 13:58:21.688497
Started I/O:  07/21/2010 13:58:21.688733
Grant:        07/21/2010 13:58:21.688734
```

SCOPE: SYSTEM SYSNAME: S1 STATUS: *EXCLUSIVE* /WAIT
ASID: 0000002B TCB: 004E6D90 JOBNAME: GRSTOOL
Reserve Device: 027E Volser: TMPPAK
Critical ENQ Time(s):

Interactions and dependencies

- None

Migration and coexistence considerations

- None

Installation

- None

Session Summary

- Additional Reserve diagnostics available in IPCS GRSTRACE report

Appendix - References

- z/OS V1R13.0 MVS Planning: Global Resource Serialization
– Document Number SA22-7600-xx