ECS Configuration Change Request

1. Originator	2. Log Date:	3. CCR #:	4. Rev:	5. Tel:	6. Rm #:	7. Dept.
Milton Stevens	**03/1/02**	**02-0180**	**—**	301-925-0423	3015 H	DEV

8. CCR Title:
Caching Strategy to improve EDG Search Performance at GFSC and EDC.

9. Originator Signature/Date	10. Class	11. Type:	12. Need Date: 3/8/02
Milton Stevens /s/ 2/28/02	**II**	**CCR**	

13. Office Manager Signature/Date	14. Category of Change:	15. Priority: (If "Emergency" fill in Block 27).
Arthur Cohen /s/ 2/28/02	EDF (RTSC)	Routine

16. Documentation/Drawings Impacted:	17. Schedule Impact:	18. CI(s) Affected:
910-TDA-025		

19. Release Affected by this Change:	20. Date due to Customer:	21. Estimated Cost:
N/A		None - Under 100K

22. Source Reference: ☐ **NCR (attach)** ☐ **Action Item** ☐ **Tech Ref.** ☐ **GSFC** ☒ **Other:**
See Attached E-Mail

23. Problem: (use additional Sheets if necessary)
The EDG users search and order performance has degraded over the past couple weeks.

24. Proposed Solution: (use additional sheets if necessary)
Add caching strategy to provide consistent end user response time for searches against the granules and /or gpolygon table.

Prerequisite: H/W CCR 01-172 - Add 8 GB of memory to e0acg11 and g0acg01 must be implemented first.

25. Alternate Solution: (use additional sheets if necessary)
None

26. Consequences if Change(s) are not approved: (use additional sheets if necessary)
EDG Search Performance will continuing to be slow.

27. Justification for Emergency (If Block 15 is "Emergency"):

28. Site(s) Affected: ☐ EDF ☐ PVC ☐ VATC ☒ EDC ☒ GSFC ☐ LaRC ☐ NSIDC ☐ SMC ☐ AK ☐ JPL ☐ EOC ☐ IDG Test Cell ☐ Other

29. Board Comments:	30. Work Assigned To:	31. CCR Closed Date:

32. EDF/SCDV CCB Chair (Sign/Date):	**Disposition:** Approved App/Com. Disapproved Withdraw Fwd/ESDIS ERB Fwd/ECS
33. M&O CCB Chair (Sign/Date): /s/ G. G. Gavigan 3/4/02	**Disposition:** Approved App/Com. Disapproved Withdraw Fwd/ESDIS ERB Fwd/ECS
34. ECS CCB Chair (Sign/Date):	**Disposition:** Approved App/Com. Disapproved Withdraw Fwd/ESDIS ERB Fwd/ESDIS

CCR 02-0180

For GSFC use only

1) Execute the following commands to increase total memory of Sybase and change procedure cache percentage.

```
use master
go
sp_configure “total memory”, 5500000
go
sp_configure “procedure cache percent” , 2
go
```

2) You must reboot the server for the changes to take affect.

3) Configure Named Data Caches for GSFC (g0acg01_srvr)

DsMdGranules table

Data - 2269310 KB * 1.5 = 3403965

xDsMdGranulesSNmVidEndBeg (Clustered Index) - 72090 KB * 1.5 = 108135

PK_DSMDGRANULES (Primary Key) – 182606 KB * 1.5 = 273909

DsMdGrGPolygon table

Data - 190724 KB * 1.5 = 286086

XDsMdGrPolygon (Clustered Index) – 3250 KB * 1.5 = 4875

Resize existing Named Cache stmgtGRReq_cache to 200000 for DsStGenericRequest table

a) Execute the following commands to create Named Caches for above objects.

```
use master
go
sp_cacheconfig SD_OPS_DsMdGranules, “3.2G”
sp_cacheconfig SD_OPS_DsMdGranules_idx_1, “106M”
sp_cacheconfig SD_OPS_DsMdGranules_idx_2, “267M”
sp_cacheconfig SD_OPS_DsMdGrGPolygon, “279M”
sp_cacheconfig SD_OPS_DsMdGrGPolygon_idx_1, “4.8M”
sp_cacheconfig stmgtGRReq_cache, “195M”
sp_cacheconfig “SD_OPS_DsMdGranules”, “cache_partition=4”
sp_cacheconfig “SD_OPS_DsMdGrGPolygon”, “cache_partition=4”
go
```

b) You must reboot the server for the changes to take affect.

c) After rebooting the Adaptive Server, execute the following
commands to bind above objects to the Caches

```
use EcDsScienceDataServer1
go
sp_bindcache , SD_OPS_DsMdGranules, EcDsScienceDataServer1, DsMdGranules
go
sp_bindcache SD_OPS_DsMdGranules_idx_1, EcDsScienceDataServer1, DsMdGranules, xDsMdGranulesSNmVidEndBeg
go
sp_bindcache SD_OPS_DsMdGranules idx_2, EcDsScienceDataServer1, DsMdGranules, PK_DSMDGRANULES
go
sp_bindcache SD_OPS_DsMdGrGPolygon, EcDsScienceDataServer1, DsMdGrGPolygon
go
sp_bindcache SD_OPS_DsMdGrGPolygon_idx_1, EcDsScienceDataServer1, DsMdGrGPolygon, XDsMdGrPolygon
go
```

d) Run the sp_cacheconfig command to get detailed information about the caches.
e) Run the sp_helpcache command to get information about the caches and the entities bound to it.

For EDC use only

1) Execute the following commands to increase total memory of Sybase and change procedure cache percentage.

```
use master
go
sp_configure “total memory”, 5500000
go
sp_configure “procedure cache percent” , 7
go
```

1) You must reboot the server for the changes to take affect.

3) Configure Named Data Caches for EDC (e0acg11_srvr)

DsMdGranules table

Data – 1213666 KB * 1.5 = 1820499

xDsMdGranulesSNmVidEndBeg (Clustered Index) - 36552 KB * 1.5 = 54828

PK_DSMDGRANULES (Primary Key) – 108028 KB * 1.5 = 162042

DsMdGrGPolygon table

Data – 128550 KB * 1.5 = 192825

XDsMdGrPolygon (Clustered Index) – 3250 KB * 1.5 = 4875

Resize existing Named Cache SDSRV_DsStGenericRequest to 200000 for DsStGenericRequest table

a) Execute the following commands to create Named Caches for above objects.

```
use master
go
sp_cacheconfig SD_OPS_DsMdGranules, “1.7G”
sp_cacheconfig SD_OPS_DsMdGranules_idx_1, “54M”
sp_cacheconfig SD_OPS_DsMdGranules_idx_2, “158M”
sp_cacheconfig SD_OPS_DsMdGrGPolygon, “188M”
sp_cacheconfig SD_OPS_DsMdGrGPolygon_idx_1, “4.8M”
sp_cacheconfig SDSRV_DsStGenericRequest, “195M”
sp_cacheconfig “SD_OPS_DsMdGranules”, “cache_partition=4”
sp_cacheconfig “SD_OPS_DsMdGrGPolygon”, “cache_partition=4”
go
```

b) You must reboot the server for the change to take affect.

c) After rebooting the Adaptive Server, execute the following
commands to bind above objects to the Caches

```
use EcDsScienceDataServer1
go
sp_bindcache , SD_OPS_DsMdGranules, EcDsScienceDataServer1, DsMdGranules
go
sp_bindcache SD_OPS_DsMdGranules_idx_1, EcDsScienceDataServer1, DsMdGranules, xDsMdGranulesSNmVidEndBeg
go
sp_bindcache SD_OPS_DsMdGranules idx_2, EcDsScienceDataServer1, DsMdGranules, PK_DSMDGRANULES
go
sp_bindcache SD_OPS_DsMdGrGPolygon, EcDsScienceDataServer1, DsMdGrGPolygon
go
sp_bindcache SD_OPS_DsMdGrGPolygon_idx_1, EcDsScienceDataServer1, DsMdGrGPolygon, XDsMdGrPolygon
go
```

d) Run the sp_cacheconfig command to get detailed information about the caches.
e) Run the sp_helpcache command to get information about the caches and the entities bound to it.