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Procedure

After database disk failure, data is restored to larger database disks

Product and platform:

Product: Brisque® serve

Platform:

- 43P–150—Tiger2
- F50
- 6F1—Condor

Operating system: IBM® AIX® 4.3.3

Symptoms:

The database is not operative because of a faulty disk (hdisk4), and a 1x9 GB replacement disk is not available.

Solution:

The 2 existing database disks will be replaced by 2x36 GB disks and reformatted as 2x9 GB.

Note: Because of the Informix restoration from Legato backup, the previous setting must be restored.

1. Replace 2x9 GB existing disks with 2x36 GB disks:

```
root@Ripro01:/ 28 % lsdev –Csscsi
hdisk0    Available 10-60-00-0,0     Barracuda 9GB LP Wide Ultra SCSI (ST39173W)
cd0       Available 10-60-00-4,0     SCSI Multimedia CD-ROM Drive
hdisk1    Available 10-60-00-8,0     Barracuda 9GB LP Wide Ultra SCSI (ST39173W)
hdisk3    Available 10-60-00-10,0    Cheetah 36GB 10K Ultra320 SCSI (ST336607LW)
hdisk4    Defined   10-60-00-11,0    Barracuda 9GB LP Ultra2 SCSI (ST39175LW)
hdisk5    Defined   10-60-00-12,0    Barracuda 9GB LP Ultra2 SCSI (ST39175LW)
hdisk6    Available 10-60-00-13,0    Cheetah 36GB 10K Ultra320 SCSI (ST336607LW)
ses0      Available 10-60-00-15,0    SCSI Enclosure Services Device
rmt2      Available 30-78-00-2,0     Other SCSI Tape Drive
hdisk2    Available 10-60-00-9,0     Cheetah 36GB 10K Ultra320 SCSI (ST336607LW)
lus       Available Legato SCSI      User Interface Release 6.1.3.Build.428
rmt0      Available 10-70-00-1,0     Other SCSI Tape Drive
rmt1      Available 10-70-00-2,0     Other SCSI Tape Drive
hdisk7    Available 10-60-00-11,0    Cheetah 36GB 10K Ultra320 SCSI (ST336607LW)
hdisk8    Available 10-60-00-12,0    Cheetah 36GB 10K Ultra320 SCSI (ST336607LW)
```

2. Remove the defined disks and reconfigure the new disks as hdisk4 and hdisk5:

```
root@Ripro01:/ 29 % rmdev -l hdiskX –d
hdisk4 deleted
hdisk5 deleted
hdisk7 deleted
hdisk8 deleted
```

3. Identify which PCI (SCSI) bus are connected to the disks:

```
root@Ripro01:/ 31 % lsdev –Cspci
isa0    Available  10-58 ISA Bus
scsi0   Available  10-60    Wide SCSI I/O Controller
iga0    Available  10-68    GXT110P Graphics Adapter
```

4. Run **config manager** for the identified PCI bus:

```
root@Ripro01:/ 34 % cfgmgr -l scsi0
root@Ripro01:/ 35 % lsdev –Csscsi
hdisk4  Available  10-60-00-11,0  Cheetah 36GB 10K Ultra320 SCSI (ST336607LW)
hdisk5  Available  10-60-00-12,0  Cheetah 36GB 10K Ultra320 SCSI (ST336607LW)
```

5. Check if system disk is mirrored:

```
root@Ripro01:/ 39 % lspv
hdisk0  00439dfa6f577dd7  rootvg
hdisk1  00984625353cd68f  rootvg
```

6. Via scismit, run **unmirror** for system disk:

```
The unmirroring of the system disk was successfully completed!

root@Ripro01:/ 41 % lspv
hdisk0 00439dfa6f577dd7 rootvg
hdisk1 00984625353cd68f None
```

7. Via **scismit > Export a Volume Group**, export to previous svg4 and svg5.

8. Via **scismit > Database Disk Size > Database Disk/s Size (in GB) 9+9**, create a new database disk:

```
root@Ripro01:/ 43 % lsvg
rootvg
svg6
svg4
svg5
svg7
svgw
backupvg
```

9. The physical DB spaces had to be removed via smit (Logical Volume removal) rather than scicmit.

Remove a Logical Volume [Entry Fields]
LOGICAL VOLUME name [mngr_DBRoot] +

rmlv: Logical volume mngr_DBRoot is removed

10. Next tried to configure the DB disk with an empty DB and got the following error:

746: SECURITY EXCEPTION ! -the login_name doesn't exist or no match to prima
Not a data message
Error in line 1
Near character position 1
Database closed.
Upgrade DataBase Structure failed. Exiting ...
Upgrading database failed. Exiting ...

11. Checked the sequence of chunks:

DBSPACE	CHUNK#	SIZE(Kb)	DISK	MIRROR-DISK	%FULL	FREE(Kb)
DBRoot	0	256000	hdisk0	hdisk5	N/A	N/A
DBBlobs	0	2048000	hdisk5	None	N/A	N/A
	7	2048000	hdisk5	None	N/A	N/A
	8	2048000	hdisk5	None	N/A	N/A
	9	2048000	hdisk5	None	N/A	N/A
	10	256000	hdisk5	None	N/A	N/A
	11	2048000	hdisk4	None	N/A	N/A
	12	1536000	hdisk4	None	N/A	N/A
DBTbls	0	2048000	hdisk4	None	N/A	N/A
	3	2048000	hdisk4	None	N/A	N/A
	4	1024000	hdisk4	None	N/A	N/A
DBTemp	0	64000	hdisk5	None	N/A	N/A

12. Then removed the spaces and recreated them:

DBSPACE	CHUNK#	SIZE(Kb)	DISK	MIRROR-DISK	%FULL	FREE(Kb)
DBRoot	0	256000	hdisk0	hdisk5	N/A	N/A
DBBlobs	0	2048000	hdisk5	None	N/A	N/A
	1	2048000	hdisk5	None	N/A	N/A
	2	2048000	hdisk5	None	N/A	N/A
	3	2048000	hdisk5	None	N/A	N/A
	4	256000	hdisk5	None	N/A	N/A
	5	2048000	hdisk4	None	N/A	N/A
	6	1536000	hdisk4	None	N/A	N/A
DBTbls	0	2048000	hdisk4	None	N/A	N/A
	1	2048000	hdisk4	None	N/A	N/A

	2	1024000	hdisk4	None	N/A	N/A
DBTemp	0	64000	hdisk5	None	N/A	N/A

The chunks are now in order but the error message still appears. Then decided to continue with the DB restoration, since it was assumed that most of the critical DB items are there anyway.

13. Located the latest INFORMIX DB backup in Legato that was OK:

BACK.42 ripro01 08/31/04 01:33:24 7742 KB 874313985 cb full INFORMIX:/ids_server

Select Date

Type or select values in entry fields.

Press Enter AFTER making all desired changes.

[Entry Fields]

* Select Year _____YYYY [2004] #

Select Month _____MM 08 +

Select Day _____DD 31 +

* Select Hour _____hh:mm:ss [01:34:24]

F1=Help +----------+

Esc+5=Reset ¦ Running command... ¦age

Esc+9=Shell +----------+

COMMAND STATUS

Command: running stdout: yes stderr: no

Before command completion, additional instructions may appear below.

Sep 8 15:33:01 Ripro01 root: NetWorker media: (waiting) waiting for 8mm AIT-2 tape BACK.42 (B00042) on ripro01

Onbar emergency boot file is recovered. media: (waiting) waiting for 8mm AIT-2 tape BACK.42 (B00042) on ripro01

Database restore started ... Please wait.

Sep 8 15:36:50 Ripro01 root: NetWorker media: (waiting) waiting for 8mm AIT-2 tape BACK.37 (B00037) on ripro01

Sep 8 15:36:50 Ripro01 root: NetWorker media: (waiting) waiting for 8mm AIT-2 tape BACK.36 (B00036) on ripro01

Sep 8 16:16:11 Ripro01 root: NetWorker media: (waiting) waiting for 8mm AIT-2 tape BACK.43 (B00043) on ripro01

Sep 8 16:21:22 Ripro01 root: NetWorker media: (waiting) waiting for 8mm AIT-2 tape BACK.42 (B00042) on ripro01

Database restored via onbar FAILED. onbar return code 148 .

14. I tried same day at a different time to get the same results. The local engineer informed that a large amount of data was written to both DB disks. I tried again to continue the process, check DB for consistency and eventually, run ‘Update DB structure’ and diagnostics.

15. All procedures ran without any error, but the following warning appears:

    WARNING: If you intend to use J/Foundation with this Server instance, please make sure that your SHMBASE value specified in onconfig is 0x40000000L or above. Otherwise you will have problems while dynamically adding virtual shared memory segments. Please refer to Server machine notes for more information.

16. To be on the safe side, I asked R&D to look at the DB. The following is their input:

    - Change the 'onconfig' SHMBASE from 0x3000.... to 0x4000... in order to avoid the followings: WARNING: If you intend to use J/Foundation with this Server instance, please make sure that your SHMBASE value specified in onconfig is 0x40000000L or above. Otherwise you will have problems while dynamically adding virtual shared memory segments. Please refer to Server machine notes for more information
    - Recreate the corrupted 'SYSUTILS' database. The DB backup should work

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