What’s new in FSFC and FSR 5.2 ?

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Current status of FSFC and FSR 5.2

- 5.2 is intended for ALL customers
  - Initially just for IASP clients
  - Later for FSFC and FSR clients
  - Clients at 4.6 can go directly to 5.2, skipping 5.1
- Big enhancements:
  - FlashSystem Policy-based volume group replication and flashcopy
  - Safeguarded Copy w/o CSM
- Minor enhancements:
  - Continue to use REST API’s over ssh CLI
  - Support for Ragged Commit boundaries on FlashCopy
  - Bug fixes
- Some items were moved back to 4.6 and 5.1
- Documentation:
  - Quicksetup guides updated
  - User/Installation guides updated
  - Webpages updated

Volume Group FlashCopy

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- Supported along with traditional consistency group flashcopy
- Specify VGFC for Storage Type
- *SELECT for group and pool ID's will display options from storage
- VGFC creates new volumes, so then take opt 16 to define the host so it knows what to connect them to
  - Don't define host mappings, just the host!

```
                          Create a FLASH environment
Type choices, press Enter.

Environment name . . . . . :   TEST
Storage Type . . . . . . . :   VGFC

Primary ASP  . . . . . . . .   *SYSTEM              33 - 255, *SYSTEM

Flash System IP Address  . .   0.0.0.0             IPv4
FlashCopy volume group Id      0                   Id, *SELECT
Target Volume Pool Id  . . .   0                   Id, *SELECT
Flash from PPRC Target . . .   *NO
Safeguarded  . . . . . . . .   *NO                 *YES, *NO

Comment:
  Text . . . . . . . . . . .   _____________________________________________
__
```

Volume Group FlashCopy

- Toolkit will create a new volume group for the new disks
- The volume group will be named CSE_CSEDTA_# where the # is the source volume group ID
- That means the old volume groups and volumes with the same name will be re-used, just like with the legacy method
- To convert from consistency group to volume group based flashcopy
  - Delete existing target volumes, mappings and consistency groups
  - Create new (or use existing) volume group containing source volumes
  - Delete copy services environment
  - Create new copy services environment

Policy-based Full System Replication

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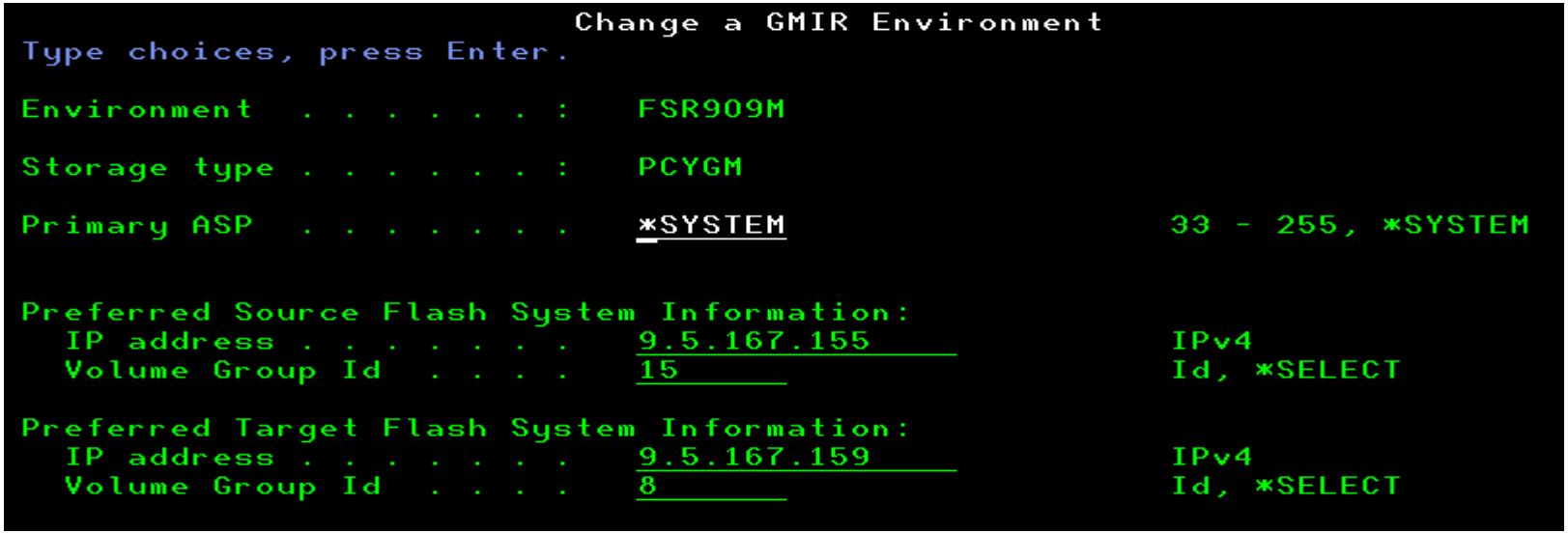
- Supported along with traditional consistency group replication
- Additional changes required on storage – we will create documentation on how to convert
- Specify PCYGM for Storage Type
- *SELECT for volume group ID's
- Policy-based replication will revert to GMCV if bandwidth is not sufficient
- Detach is not supported if it has reverted to GMCV
- Detach will require manual procedures until FlashSystem 8.6.2 is available



WRKCSE opt 12 opt 10 for PCYGM

- Different information – note F11 for each location

```
                  Display Volume Group Replication Details

Source Flash System name . :   FS52001
Replication policy name  . :   pprc_v2_test_pc
Volume group name  . . . . :   FSR_9M90
Volume group id  . . . . . :   15
Replication mode . . . . . :   disconnected
Previous replication mode  :
Running recovery point . . :   0
Fixed recovery point . . . :
Within RPO . . . . . . . . :
Sync data required . . . . :   0
Sync data remaining  . . . :   0
Location status  . . . . . :   disconnected
Last write . . . . . . . . :
Link status  . . . . . . . :   disconnected

                                                                  Bottom
F1=Help   F3=Exit   F5=Refresh   F11=Show location 2   F12=Cancel
```

Confirmation panels and detach and reattach

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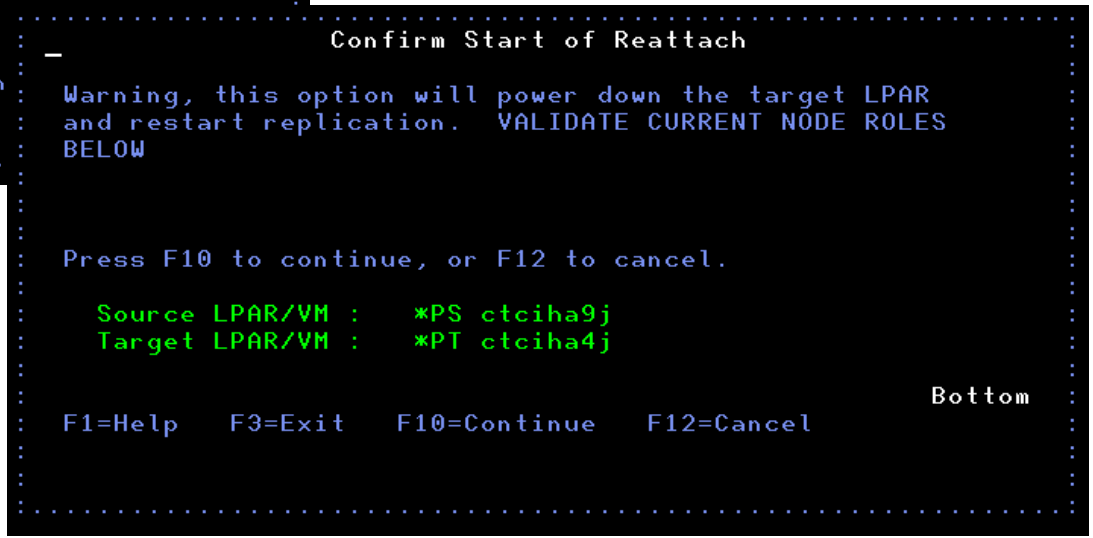

*CSMAUT profile role

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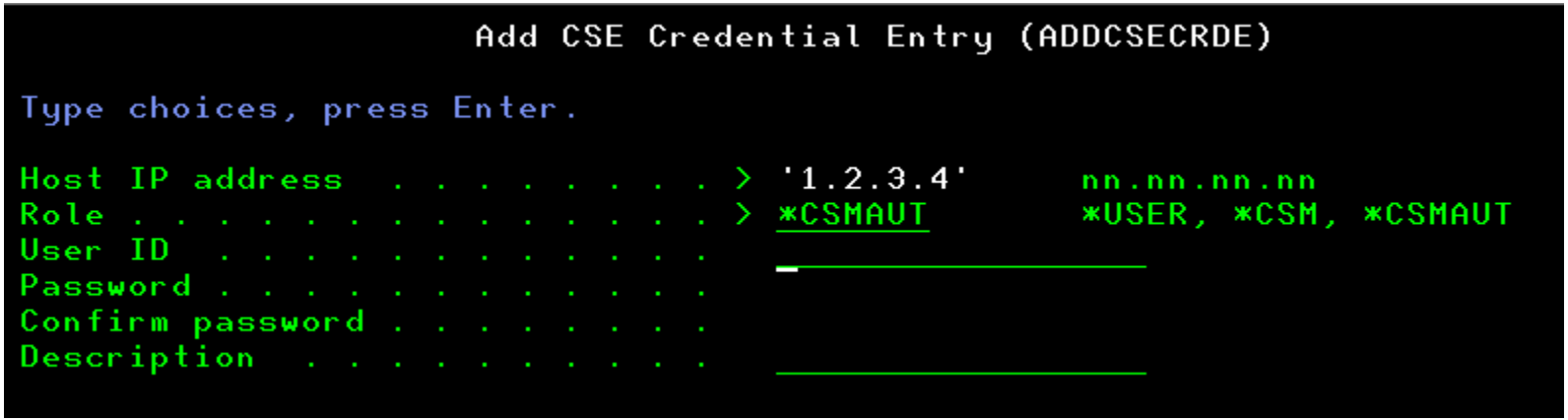
- For CSM environments with dual control enabled, this is the user ID used to approve any pending actions initiated by the *CSM user ID.



Ragged Commit Boundaries

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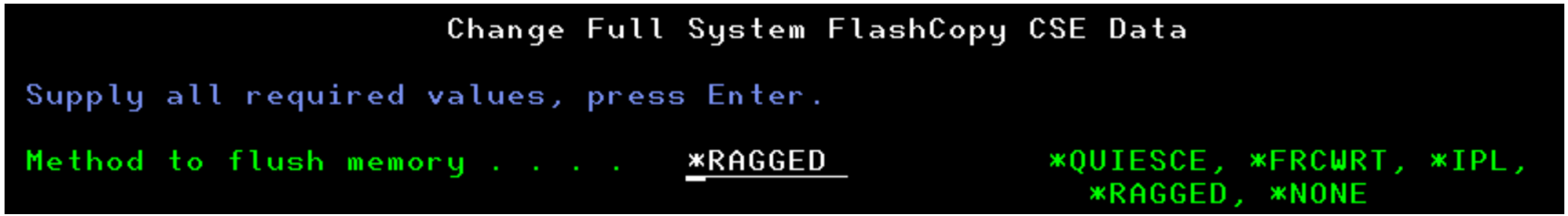
- Memory flush won't wait for transactions to reach commit boundaries
- Less impact to users than *QUIESCE but much more difficult recovery
  - Not intended to be a regular backup
- Must save journal receivers on source LPAR and use them during the recovery
  - Use the toolkit exit program at *FINISH to save all changed receivers
- Don't expect many clients to use this, but it was requested
- https://www.ibm.com/support/pages/ragged-commit-boundary-0
- https://helpsystemswiki.atlassian.net/wiki/spaces/IWT/pages/165642501/Using+ALLCHGRCV+or+ALLDTCRCV+control+group+entries+to+save+journal+receivers



Changes to Remote FlashCopy using SVC MMIR

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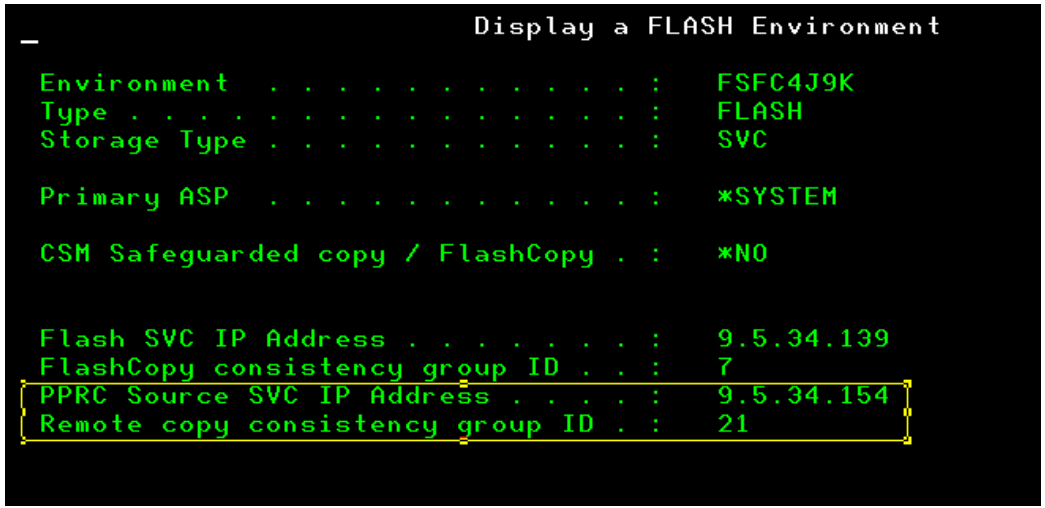
- Previously, remote FlashCopy on FlashSystems using MMIR did not take replication into consideration
- It was assumed that the target was always synchronized so it was always safe to flash from it
- Issue is that IBM i objects on the target disk could be partially written
- The flashcopy may results in ‘torn pages’
- Solution is to stop MMIR prior to the flashcopy
- In WRKCSE, just like with GMCV, specify the source replication device IP address and consistency group ID
- Customers moving to 5.2 should change their MMIR FlashCopy environments
- FlashCopy from a GMIR (no change volumes) target still not supported!



Miscellaneous

- FSFC no longer changes startup program
  - CFGSTRPRSC must be in customer startup program
  - Uses WRKSTRPRSC *FC system roles
  - Will look for data from controller and then proceed as usual
- BRMS will ignore iCC volume transfers if iCC isn't installed (also moved back to 4.6)
- All environment variables and data areas documented on our website
- Temporary license keys will issue warnings to QSYSOPR and joblog if expiration date is within 90 days
- API's updated to support VGFC and VGPCY
- PowerVS support for multi-flash (one source, multiple concurrent flashcopy targets)

Removed BRMS locking parameters from CSEDTA

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- All CSEDTA's will now default to:
  - *SRCONLY with xfer method *ALL
  - *NONE with xfer method *CHGONLY
  - All locking will be *FCNUSG, never *HOLD

- On migration we'll set to *SRCONLY/*NONE and *FCNUSG automatically

- Reason for removing is that the only time we've seen them used is when they're used incorrectly and they create problems.