IBM

What's new in FSFC and FSR 5.1 ?

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ibm.com/systems/services/labservices
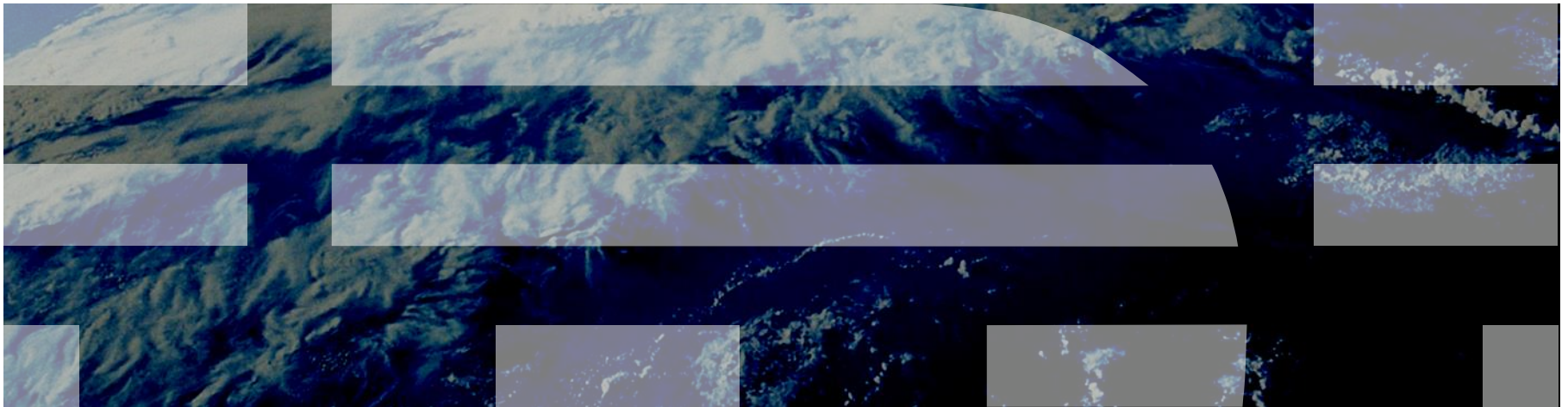
Current status of FSFC/FSR 5.1

- ○ 5.1 is currently only intended for PowerVS customers

- ○ Many new internal enhancements not visible to customers/consultants
  - ○ Using REST API's instead of ssh commands where possible (FlashSystem, DS8K, etc)
  - ○ Lots of memory management fixes
  - ○ Bug fixes etc

- ○ Some items were moved back to 4.6
  - ○ Will be available in a future build

- ○ Documentation:
  - ○ Quicksetup guides have been updated
  - ○ User/Installation guides have been updated
  - ○ Webpages have been updated

FSR
Enhancements

Support for PowerVS Global Replication Service (GRS)

o WRKCSE has been updated for PowerVS FSR details

```
                     Display a PPRC Environment
Press Enter to continue.

Environment . . . . . . . . . . . . :    SRC2DEV
Type  . . . . . . . . . . . . . . . :    GMIR
Storage Type  . . . . . . . . . . . :    CLOUD

Primary ASP . . . . . . . . . . . . :    *SYSTEM

Cloud Replication Information:
  Source API Key name . . . . . . . :    EAST
  Source PVM Instance Id  . . . . . :    c2bba553-ceb6-461d-958c-3847fafb991b
  Source PVM name . . . . . . . . . :    SRC2DEV
  Source Consistency Set  . . . . . :    src2dev_fsr
  Target API Key name . . . . . . . :    SOUTH
  Target PVM Instance Id  . . . . . :    39422942-073f-470b-8523-592f36ae28b7
  Target PVM name . . . . . . . . . :    TRG2DEV
  Target Consistency Set  . . . . . :    rccg-8aab-fca33
```

o WRKCSEDTA, CHKCSE, SWCSE, WRKSTRPRSC all work with PowerVS GRS API's

o Detach is supported too!

o Subscription-based toolkit licensing

  o Includes asset and maintenance in one cost

  o 1-year increments

  o BOSS updated to issue temporary licenses by default

  o Future toolkit enhancement will warn when license expiration is approaching

WRKCLDVOL

- New command to work with Cloud volumes.
  - Key command for managing consistency sets, replication, volumes status, details, etc.

WRKSTRPRSC iSCSI Resources

o Allows toolkit to change/add iSCSI resources for VTLs

```
                Work with iSCSI Resources

 Type options, press Enter.
   1=Add    2=Change    4=Remove

 Opt     Usage     IP Interface      Target Device
 _       _____   _____
 _       *PS       9.5.34.65         DSI525-EV0
 _       *PT       9.5.34.65         vtl-tgt-for-ctciha4j
```

```
                Add or Change iSCSI Resources
 Enter details, press Enter.

    Usage . . . . . . . .    *PS_                    *PSxx, *PTxx, *FCxx, *CTLx,
                                                      *SGxx
    IP Interface  . . . .    9.5.34.65_____        IPv4 address
    Port  . . . . . . . .     3260                   0-65535
    Target Device IQN . .    DSI525-EV0_____
                                                     IQN
    Client Device IQN . .    iqn.1924-02.com.ibm:ibmi.ctciha9j_____
    _____                                       IQN
```

CHKCSE warns if STRTCP is *YES

o Allows toolkit to change/add iSCSI resources for VTLs

```
chkcse fsr9j4j
Source LPAR is set to start TCP on IPL.
CHKCSE completed successfully.  FSR9J4J is ready for the SWCSE command.
```
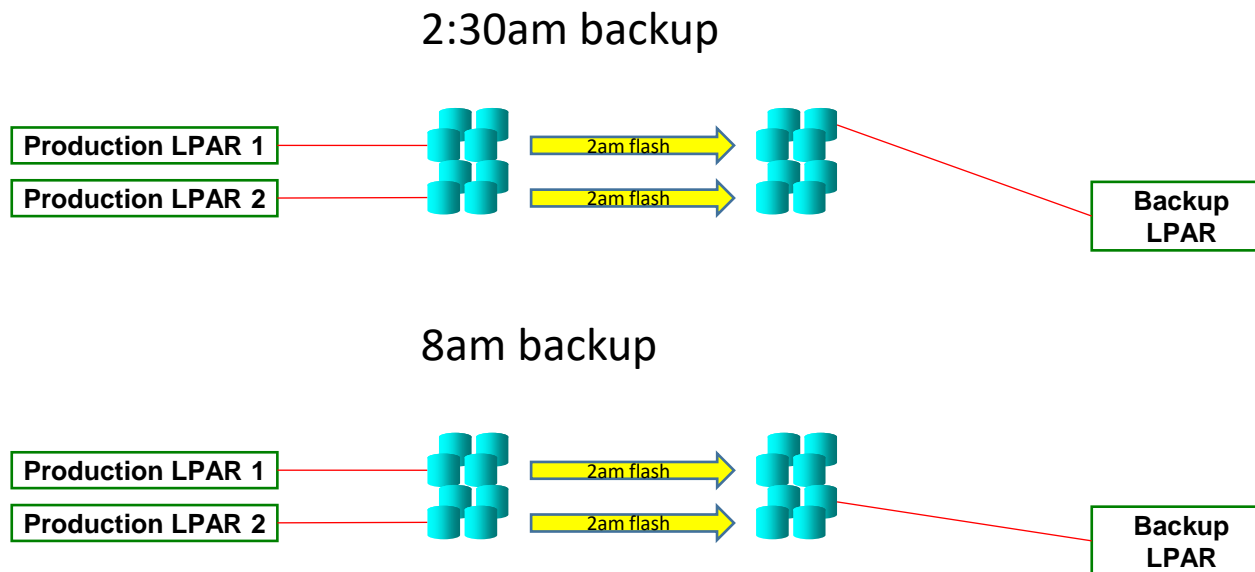
Picture of Norway to avoid white space on a slide:

FSFC Enhancements

PowerVS FSFC support for re-using target VM for multiple source VMs

o Reduces the PowerVS costs for customers

2:30am backup

| Production LPAR 1 |
| Production LPAR 2 |

2am flash
2am flash

Backup LPAR

8am backup

| Production LPAR 1 |
| Production LPAR 2 |

2am flash
2am flash

Backup LPAR

Additional PowerVS FSFC Improvements

o Support for re-using a target VM with multiple source VMs
  - o Reduces customer PowerVS costs

o Using [undocumented] bulk volume attach APIs to improve attach speeds

o Volume deletes are done asynchronously so process won't wait for it them

o Improved user interfaces for specifying iSCSI interfaces
  - o Uses WRKCSEDTA instead of environment variables

```
              Create Full System FlashCopy CSE Data

Supply all required values, press Enter.

Target LPAR iSCSI Informations:
  Device IP Address  . . . . .   1.2.3.4            *NONE, IP address
  Device port number . . . . .   *DFT               *DFT, 0-65535
  Device IQN . . . . . . . . .   device.iqn

  Client IQN . . . . . . . . .   client.iqn
```

Commands to manage PowerVS FSFC

o   PowerVS Volumes-clones functions are not externalized on the web GUI

o   We have created some commands to facilitate working with them

o   DSPCLDCLNL – display cloud clone list. Will place output in the joblog and viewlog:

```
dspcldclnl east
Volumes-clone c60b8c0f-3564-4578-962e-644f247ce5ec with state completed
   was found.
```

```
507323 2022-12-22 08:36:44        Listing source volumes-clones. (listCloudVolumesClone)
507323 2022-12-22 08:36:44        Logging PowerVS REST API in /QIBM/Qzrdhasm/fsfc/PWRRESTStderr.txt. (doPowerRestCnv)
507323 2022-12-22 08:37:00        ---------- Volumes-clone 1 ---------- (listCloudVolumesClone)
507323 2022-12-22 08:37:00        Name:    FSFC1DEVUP-202212220828
507323 2022-12-22 08:37:00        ID:      c60b8c0f-3564-4578-962e-644f247ce5ec
507323 2022-12-22 08:37:00        Status:  executing
507323 2022-12-22 08:37:00        Created: 2022-12-22T14:27:25.593Z
507323 2022-12-22 08:37:00        ---------- All Volumes-clones listed ----------
507323 2022 12 22 08:37:03        PowerVS license released. (releasePowerVSLicense)
```

Commands to manage PowerVS FSFC

- o CNLCLDCLN – cancel cloud clone.

- o DLTCLDCLN – delete cloud clone. Can also cancel it, detach and delete volumes associated with the clones.

```
                  Delete Cloud Volumes-clone (DLTCLDCLN)

Type choices, press Enter.

API Key Name . . . . . . . . . .     _
Volumes-clone id . . . . . . . .     _____

Cancel active volume-clone . . .     *NO_          *YES, *NO
Detach target volumes  . . . . .     *NO_          *YES, *NO
Delete target volumes  . . . . .     *NO_          *YES, *NO
```

- o DLTCLDVOL – delete cloud volumes (be careful with this one too)

```
                  Delete Cloud Volumes (DLTCLDVOL)

  Type choices, press Enter.

  API Key Name . . . . . . . . . .     _
  Volume ID  . . . . . . . . . . .     _____

               + for more values      _____
```

Additional FSFC Things

o Controller logs show production LPAR timestamp

o Remote FSFC allows custom timeout periods

o Improved BRMS Xfer commitment control (faster!)

Common Enhancements

Start Cloud VM

- ○ Cloud equivalent to IPLLPAR

```
                    Start Cloud PVM (STRCLDPVM)

 Type choices, press Enter.

 API Key Name . . . . . . . . . . .    _____
 PVM ID . . . . . . . . . . . . . .    _____
 _____
 Block until PVM is active  . . .      *YES              *YES, *NO
 Max minutes to block . . . . . .      600               minutes
```

Additional Things

- ○ IBM i 7.5 compatibility enhancements
  - ○ Annoyingly this included PTFs on V7R4 due to compiler 'upgrades'

- ○ Controller logs show production LPAR timestamp

- ○ SETUPFSFC and SETUPFSR have 'migration' parameter:

```
              Set up IBM Pwr HA tools - FSFC (SETUPFSFC)

 Type choices, press Enter.


 Node role  . . . . . . . . . . .   _____             *CTL, *SRC
 FSFC communications port . . . .   *SAME             1-65535, *SAME, *DFT
 Toolkit access code  . . . . . .   *SAME
 Target line description  . . . .   *NONE             *NONE, name
 Target TCP/IP interface  . . . .   *NONE
 Target TCP/IP subnet mask  . . .   *NONE
 Migrate toolkit information  . .   *NO               *YES, *NO
```