SCP Enhancements

SCP Subcommittee Meeting

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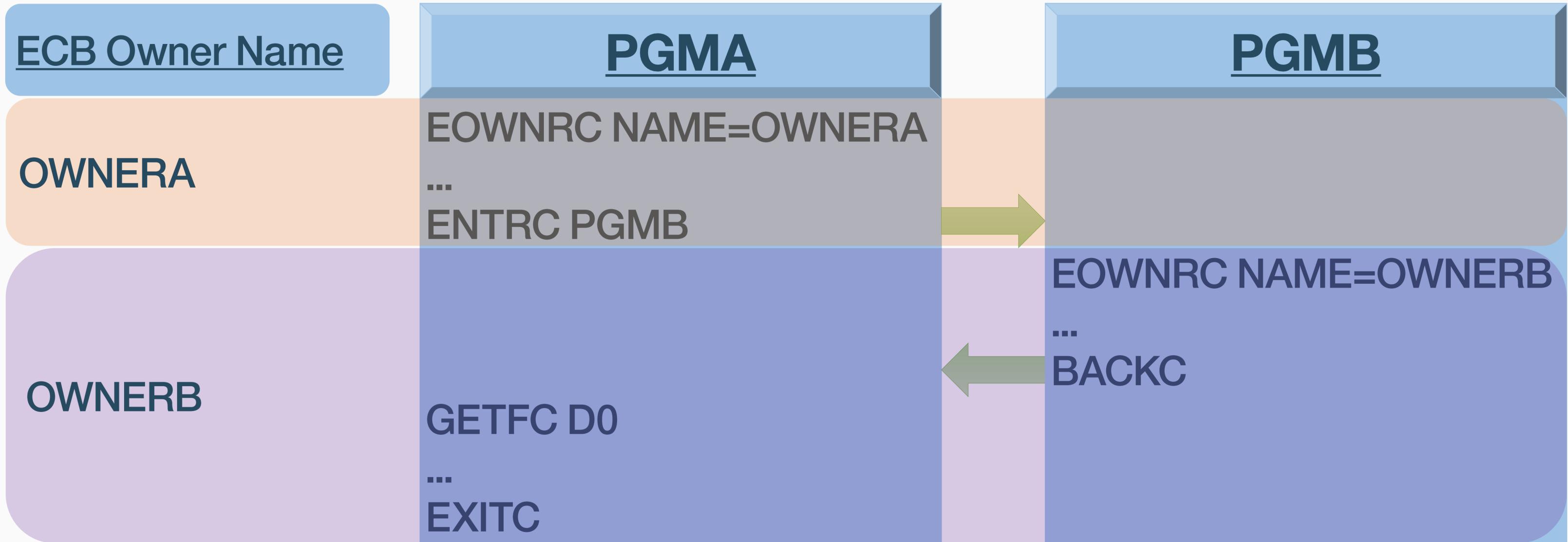IBM makes no commitment to provide additional information in the future.

Available APARs

- PJ44470 – Automatic ECB owner name restore support

- PJ44151 – Write restrict file attribute support

- PJ44374 – Various small enhancements

- PJ44514 – Issue ZIFIL without specifying last ordinal

- PJ44391 – Display & alter system heap by token name

- PJ44467 – Display entries in the ECB heap trace table

- PJ44394 – Common deployment restart enhancement

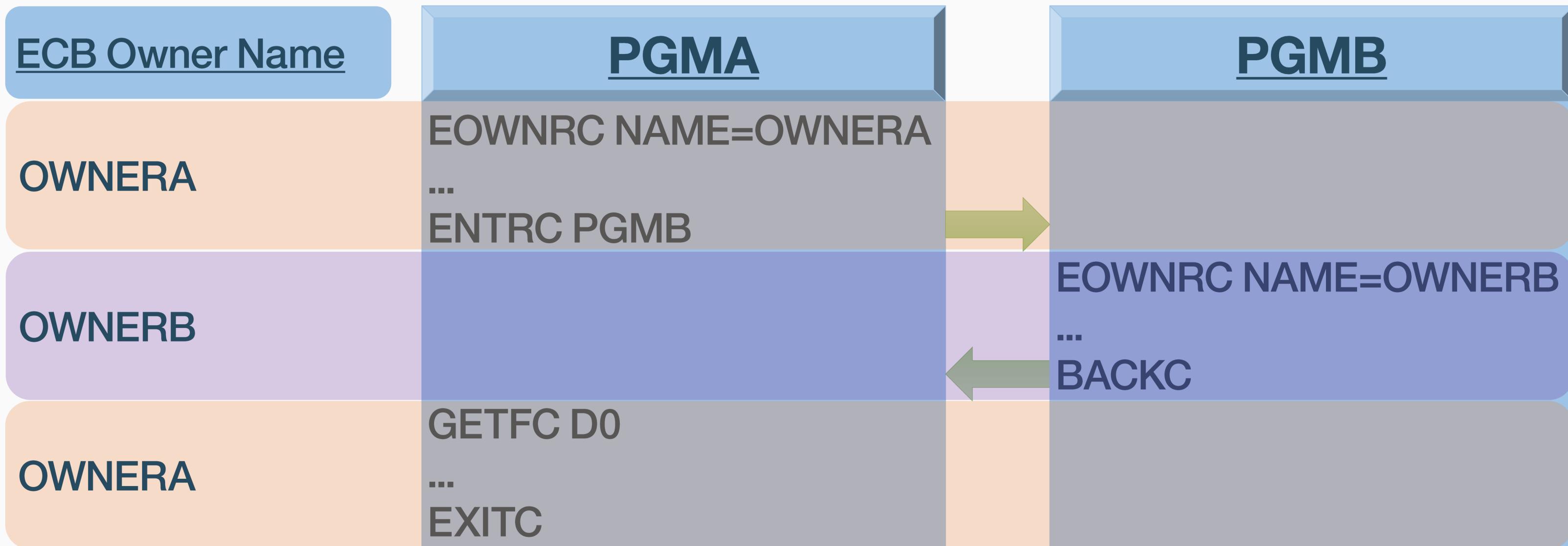- PJ44542 – Refresh HyperPAV configuration

Automatic ECB owner name restore support

- APAR PJ44470 is delivered in PUT14

- When changing the ECB owner name, the previous ECB owner name and cross module stack frame pointer are saved into a stack entry.

- When returning to the previous program package, the saved ECB owner name is restored.

- Any accumulated resource counts are collected before restoring the ECB owner name for ZMOWN command

Automatic ECB owner name restore support

ECB Owner Name	PGMA	PGMB
OWNERA	EOWNRC NAME=OWNERA ... ENTRC PGMB	
OWNERB	GETFC D0 ... EXITC	EOWNRC NAME=OWNERB ... BACKC

Automatic ECB owner name restore support

ECB Owner Name	PGMA	PGMB
OWNERA	EOWNRC NAME=OWNERA ... ENTRC PGMB	
OWNERB		EOWNRC NAME=OWNERB ... BACKC
OWNERA	GETFC D0 ... EXITC	

Automatic ECB owner name restore support

- Do not need to manually restore ECB owner name after calling an API

- New support is initially disabled to allow applications that relied on the original behavior to be modified. The ZCTKA ALTER command can be issued to immediately enable the support without an IPL.

- More accurate resource tracking by different program packages when using resource usage by owner name collection (ZMOWN command)

Write restrict file attribute support

- APAR PJ44151 is delivered in PUT13

- For TFS and MFS file systems, an ECB must have the corresponding write restrict file attribute value of a target directory

- TPF_filesystem_write_restrict() API changes the ECB write restrict value

- ZFILE attr command is used to change the file attributes

- The /vcfx and /sys/tpf_pbfiles directories have been set with a write restrict value that is now used by z/TPF loaders and image commands

Write restrict file attribute support

- Enforce the requirement that Java executable files must be loaded via the z/TPF loader

- New support adds an additional layer of security by independently working with existing Unix-like file system permissions

Various small enhancements

- APAR PJ44374 is delivered in PUT13

- System changes to support IBM z Systems Development and Test Environment (zD&T) for emulating software on a Linux server

- New tpf_protc function checks if the current processor is the owner of a utility for a specified subsystem

- New "joining processor" state when a processor has not completely joined the complex in the GENLC macro and tpf_genlc function

Various small enhancements

Processor State	Stages of Adding Processor to a Loosely Coupled Complex
Inactive	• Operator performs hardware IPL. • New processor recognizes the current MPIF configuration.
Joining ~~(Active)~~	• New processor notifies other active processors that it is joining the complex. • System performs forced software IPL to synchronize processor-shared keypoint data.
Active	• New processor notifies other active processors that it is an active processor in the complex.

Issue ZIFIL without specifying last ordinal

- APAR PJ44514 is delivered in PUT14

- New LAST option can be used to specify the last ordinal of a record type in the ZIFIL command

- Initialize a record type after an expansion of the ordinal range without modifying the ZIFIL command

Issue ZIFIL without specifying last ordinal

```
AAES0008I 00 ==> ZIFIL HOTREC/HT/00/0/255/NNN/N
CSMP0097I 13.51.16 CPU-B SS-BSS  SSU-HPN  IS-01
IFIL0004I 13.51.16 RECORD INITIALIZATION STARTED FOR .HOTREC +
CSMP0097I 13.51.16 CPU-B SS-BSS  SSU-HPN  IS-01
IFIL0005I 13.51.16 RECORD INITIALIZATION COMPLETED FOR .HOTREC +
AAES0008I 00 ==> ZIFIL HOTREC/HT/00/0/LAST/NNN/N
CSMP0097I 13.51.19 CPU-B SS-BSS  SSU-HPN  IS-01
IFIL0004I 13.51.19 RECORD INITIALIZATION STARTED FOR .HOTREC +
CSMP0097I 13.51.19 CPU-B SS-BSS  SSU-HPN  IS-01
IFIL0005I 13.51.19 RECORD INITIALIZATION COMPLETED FOR .HOTREC +
```

Display & alter system heap by token name

- APAR PJ44391 is delivered in PUT13

- New ZDSHP and ZASHP commands can display and alter the content of a specified unique system heap token name

- The LIST parameter in the ZDSHP command displays a list of unique system heap token names defined in the system

Display & alter system heap by token name

```
AAES0008I 00 ==> ZDSHP LIST IWODM*
CSMP0097I 11.06.07 CPU-B SS-BSS  SSU-HPN  IS-01
DSHP0030I 11.06.07 SYSTEM HEAP TOKEN NAME LIST DISPLAY
 ADDRESS            HEX NAME           NAME       SIZE  OWNER NAME
 00000007F83A3000   C9E6D6C4D4C7FF00   IWODMG..    4K        IWODM
 00000007F83A6000   C9E6D6C4D4E2FF00   IWODMS..    4K        IWODM
END OF DISPLAY+
```

Display & alter system heap by token name

```
AAES0008I 00 ==> ZDSHP IUNIXTBL
CSMP0097I 11.19.09 CPU-B SS-BSS   SSU-HPN   IS-01
DSHP0020I 11.19.09 SYSTEM HEAP TOKEN NAME IUNIXTBL INFORMATION DISPLAY
 TOKEN NAME        IUNIXTBL
 HEX TOKEN NAME    C9E4D5C9E7E3C2D3
 STARTING ADDRESS  00000007F9100000
 OWNER NAME        ITCP    IUNIX    CTSR                    _
 TIME ALLOCATED    03/20/2017 17.20.04
 SIZE              4M
END OF DISPLAY+
AAES0008I 00 ==> ZDSHP C9E4D5C9E7E3C2D3
CSMP0097I 11.19.19 CPU-B SS-BSS   SSU-HPN   IS-01
DSHP0020I 11.19.19 SYSTEM HEAP TOKEN NAME C9E4D5C9E7E3C2D3 INFORMATION DISPLAY
 TOKEN NAME        IUNIXTBL
 HEX TOKEN NAME    C9E4D5C9E7E3C2D3
 STARTING ADDRESS  00000007F9100000
 OWNER NAME        ITCP    IUNIX    CTSR                    _
 TIME ALLOCATED    03/20/2017 17.20.04
 SIZE              4M
END OF DISPLAY+
```

Display & alter system heap by token name

```
AAES0008I 00 ==> ZASHP LIT_HEAP 8 00024848 VALDATA-00012020
CSMP0097I 11.33.58 CPU-B SS-BSS  SSU-HPN  IS-01
ASHP0010I 11.33.58 BEGIN DISPLAY
  00000007F9F03008- 00012020                          ....
ALTERED TO -
  00000007F9F03008- 00024848                          ....
END OF DISPLAY - ZEROED LINES NOT DISPLAYED+
```

Display entries in the ECB heap trace table

- APAR PJ44467 is delivered in PUT14

- New HEAPTRACE parameter in the ZDECB command

- Display trace information from ECB heap APIs for an in-use ECB

Display entries in the ECB heap trace table

```
AAES0008I 00 ==> ZDECB HEAPTRACE 10A72000
CSMP0097I 17.30.28 CPU-B SS-BSS   SSU-HPN   IS-01
DECB0023I 17.30.28 THE HEAP TRACE FOR ECB 10A72000 STARTED
LOADMOD   LOADSET            OBJECT NAME
  OR
OBJ DSP   IS ECB SVM   THRDID    TIMESTAMP           API BUFFER ADDR      SIZE
CFVS      LOADSET-BASE      OBJECT-vfs_lookup                               _
000008EA 04 10A72000 00000000 D244060D E116F6A3 f    00000000134A6000
000002BC 04 10A72000 00000000 D244060D E116D5A3 m    00000000134A6000 00000400
CISO      LOADSET-BASE      OBJECT-iofclose
00000298 04 10A72000 00000000 D244060D E11649A3 f    00000000134A3C00
```

Common deployment restart enhancement

- APAR PJ44394 is delivered in PUT14

- Multiple ECBs are created across all available I-streams to process descriptor files

- Larger descriptor files are processed first to fully leverage the increase efficiency of using multiple I-streams

Common deployment restart enhancement

- Improve the performance of common deployment restart to reduce the time to perform an IPL on a system

- No actions are required to take advantage of the performance increase

Refresh HyperPAV configuration

- APAR PJ44452 is delivered in PUT14

- New ZSONS ALTER HPAV REFRESH command can discover missing aliases while HyperPAV support is still enabled.

- No existing HyperPAV aliases are modified by the discovery process

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Questions or comments?

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