z/OS 2.4 IBM Education Assistant (IEA)

Solution (Epic) Name: Logger Single-system Scope Couple Data Sets for GDPS® controlling (k) systems

Element(s)/Component(s): z/OS BCP system logger

Agenda

- Trademarks
- Session Objectives
- Overview
- Usage & Invocation
- Interactions & Dependencies
- Migration & Coexistence Considerations
- Installation
- Session Summary
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Trademarks

- See url http://www.ibm.com/legal/copytrade.shtml for a list of trademarks.

- Additional Trademarks: None.

Session Objectives

- Understand new logger single-system scope CDS data types:
  - LOGRY
  - LOGRZ
  - Formatting (creating) them
  - Requirements on using them
  - Types of log streams that can be used
  - Using installation utilities and procedures associated with them

Overview

- Who (Audience)
  - Potentially all log stream exploiters (*but not required for use*)

- What (Solution)

  Two (2) new distinct system logger single-system scope CDS data types supported:
  - DATA TYPE(**LOGRY**)
  - DATA TYPE(**LOGRZ**)

- Wow (Benefit / Value, Need Addressed)
  - Provides clients ability to:
    - define up to 2 unique logger couple data set types, LOGRY & LOGRZ, each to be used by a single system in the sysplex,
    - take advantage of z/OS log stream capabilities/technologies, such as SMF digital signatures and compression, also to continue to use similar tools/utilities as currently used throughout the sysplex to extract log data,
    - enable log stream use on their GDPS controlling systems (also known as k-systems).

Usage & Invocation – when intended to use

1. Format the primary and alternate LOGRY or LOGRZ couple data set using the IXCL1DSU utility.

2. Update the COUPLE*xx* and IXGCNF*xx* members in SYS1.PARMLIB to identify the LOGRY or LOGRZ couple data sets to be used and on which z/OS image within the sysplex.

3. Update GRSRNLxx parmlib member & add the logstream related data sets to RNL exclusion list on system using either LOGRY or LOGRZ

4. Make the LOGRY or LOGRZ couple data set available.
   - **IPL** the system with the primary and alternate LOGRY or LOGRZ couple data sets defined in the COUPLExx parmlib member.
   - If single-system scope CDSs specified but are not available at IPL,
     - issue the SETXCF commands when you want to bring the LOGRY or LOGRZ couple data sets online without re-IPLing the system

     e.g. SETXCF COUPLE,TYPE=LOGRZ,PCOUPLE=(MY.LOGRZ.CDS,*volser*),ACOUPLE=(ALT.LOGRZ.CDS,*volser*)

5. Define system logger policy information in active LOGRY or LOGRZ couple data sets using IXCMIAPU utility:
   - just **DASD-only log streams** can be defined and used
   - no CF structure-based log streams allowed

Usage & Invocation

Additional Guidance on using LOGRY and LOGRZ Couple Data Sets

- Existing utilities can be used for log stream data access for log streams defined in one of the new system logger Couple Data Set types:
  - these utilities need to be run on the same system that is using LOGRY or LOGRZ CDS data type
  - the utility should move the log data into archive/history data set(s)
  - the archive/history data set(s) must be accessible to the other systems in sysplex in order to merge this log data with the sysplex view

- On any system in the sysplex:
  - Existing utilities can be used on any system in sysplex that has access to archive/offload data sets
    in order to merge this log data with the sysplex view.

  - If desired, use a sort program with the archive/history data sets to merge data from the system(s) that used the new system logger CDSs (LOGRZ and LOGRY).

Usage & Invocation (continued)

Additional Guidance … (continued)

- New access authorization resources for the new system logger policies

  class(FACILITY)

  resources:

  - MVSADMIN.LOGRY
  - MVSADMIN.LOGRZ

Usage & Invocation (continued)

Additional Guidance … (continued)

- When same-named logstreams are defined
  - in the LOGRY or LOGRZ single-system scope CDS policy
  - and also in the LOGR sysplex scope policy,

  The following requirements must be met:
  - Each same-named logstream needs to have a unique EHLQ/HLQ attribute defined in the different system logger CDS data types.
  - Or the installation must ensure the separation of system logger logstream resources:
    - separate catalogs and DASD,
    - and on a system using the single-system scope CDS data type, specify in the GRSRNLxx parmlib on that system:

```
RNLDEF RNL(EXCL) TYPE(GENERIC) QNAME(SYSDSN) RNAME(IXGLOGRY)      - when using LOGRY
RNLDEF RNL(EXCL) TYPE(GENERIC) QNAME(SYSDSN) RNAME(IXGLOGRZ)      - when using LOGRZ

RNLDEF RNL(EXCL) TYPE(GENERIC) QNAME(SYSDSN) RNAME(hlq.lsname)
RNLDEF RNL(EXCL) TYPE(GENERIC) QNAME(SYSDSN) RNAME(ehlq.lsname)
```

- To aid in avoiding potential logstream data set name collisions:
  - The system logger uses different values for each CDS data type:

CDS type	HLQ default	offload dataset suffix
• LOGR	IXGLOGR	*cnnnnnnn*
• LOGRY	IXGLOGR**Y**	*c**Y**nnnnnn*
• LOGRZ	IXGLOGR**Z**	*c**Z**nnnnnn*

Usage & Invocation (continued)

- Existing system logger requirement for a consistent configuration using system logger CDS
  - When CDS data type of either LOGRZ or LOGRY is to be used on a z/OS image other than on one that had previously used it, all the logger resource configuration data must be in a time consistent state.
  - Otherwise, system logger will not be able to maintain an accurate view of existing log stream data on the new system.

Usage & Invocation (continued)

- IXCL1DSU format couple data set utility:
  - new CDS data types:
    - DATA TYPE(LOGRY)
    - DATA TYPE(LOGRZ)
  - must code the MAXSYSTEM(*nn*) - same value used for sysplex couple data set
  - ITEM NAME(LSR) NUMBER( )
    - specifies the maximum number of log streams that can be defined to either the LOGRY or LOGRZ single-system policy.
    - same as for **LOGR** CDS data type
  - ITEM NAME(DSEXTENT) NUMBER( )
    - Specifies the number of additional log stream data set directory extents to define for log stream offload data sets.
    - same as for **LOGR** CDS data type
  - ITEM NAME(FMTLEVEL) NUMBER( )
    - Specifies the format level of the single-system scope LOGRY or LOGRZ couple data set.
    - The value of the NUMBER parameter indicates one of the following:

Value	Description
1	The resulting format level of the respective single-system scope LOGRY or LOGRZ couple data set is **HBB77C0** and is supported on z/OS V2R4 and later releases.

Usage & Invocation (continued)

- SYS1.PARMLIB member - - IXGCNFxx
  - MANAGE LOGRCDS ALLOWACCESS(YES|NO)
    - new **USECDSTYPE**(LOGR|LOGRZ|LOGRY) specification

- SYS1.SAMPLIB members:
  - changed:
    - IXGCNFXX
      - MANAGE statement has new default USECDSTYPE(LOGR)
    - IXGDELLS
      - delete a logstream definition scope is from the current system's active system logger couple data set inventory - could be sysplex scope (LOGR) or single-system scope (LOGRY or LOGRZ)
  - new: < see appendix for more details >
    - IXGLOGZF
      - sample JCL to define (format) single-system scope LOGRY & LOGRZ CDS types
    - IXGLOGZP
      - sample JCL to define single-system scope policy information in LOGRY & LOGRZ CDS types

Usage & Invocation (continued)

- Commands:
  - Display LOGGER
    - Can still use the DISPLAY LOGGER command to display the status of the system logger, individual log streams, or one or all log streams from a sysplex view.
    - When the command is targeted to a system that is using a system logger single-system scope (LOGRY or LOGRZ) couple data set, then only log streams defined in that system's active single-system scope couple data set are included in the view.
  - SETLOGR MANAGE,LOGRCDS,ALLOWACCESS(YES)
    - limitations if IXGCNFXX parmlib has USECDSTYPE(LOGRZ|LOGRY)
  - SETLOGR FORCE,DELete,LSN=...
    - Sysplex scope when targeted system executing the command is using the sysplex scope LOGR CDS.
    - However, when the command is targeted to a system that is using a single-system scope CDS type of LOGRY or LOGRZ, then
      only log streams defined in that system's active single-system scope couple data set are acted upon.

Usage & Invocation (continued)

- Commands (continued):
  - SETXCF COUPLE,

    TYPE=**LOGRY,**

    - PCOUPLE=(MYPRIM.LOGRY.CDS,*volser*),ACOUPLE=(MYALT.LOGRY.CDS,*volser*)
    - PSWITCH

    TYPE=**LOGRZ,**

    - PCOUPLE=(MYPRIM.LOGRZ.CDS,*volser*),ACOUPLE=(MYALT.LOGRZ.CDS,*volser*)
    - PSWITCH

Usage & Invocation (continued)

- System Messages:

  logger messages
  - changed logger messages:
    - text:
      ixg001e, ixg002e, ixg003i, ixg004e, ixg005e, ixg006e, ixg034e, Ixg047i, ixg049i, ixg054a, ixg059i,
      ixg060i, ixg061i, ixg065i, ixg432e, ixg446e, ixg447i, ixg601i, ixg607i, ixg652i, ixg735i

    - descriptions:
      ixg007e, ixg008e, ixg010e, ixg012e, ixg016e, ixg017e, ixg018e, ixg032e, ixg033e, ixg035e,
      ixg036e, ixg040e, ixg041e, ixg251i, ixg405i, ixg433e, ixg434e, ixg442e, ixg448i

  - new logger messages:
    - **IXG081I** system using scope cdstype
    - **IXG082E** single-system scope CDS already in use on another system
    - **IXG458E** inconsistent data types for ixcmiapu
    - **IXG734I** usecdstype ignored when allowaccess(yes)

  XCF messages
  - Changed XCF messages:
    - **IXC358I**

Usage & Invocation (continued) – SYS1.PARMLIB

IXGCNF*xx* (system logger initialization parameters)

Syntax:

```
[ CTRACE(parmlib_member_name)                                  ]
[ MONITOR                                                      ]
[    OFFLOAD                                                   ]
[            WARNALLOC(initial-delay-interval)                 ]
[            ACTIONALLOC(secondary-delay-interval)             ]
[            WARNRECALL(initial-delay-interval)                ]
[            ACTIONRECALL(secondary-delay-interval)            ]
[    LSPRIMARY                                                 ]
[            CONSUMPTIONALERT(ALLOW|SUPPRESS)                  ]
[ MANAGE                                                       ]   ←
[    OFFLOAD                                                   ]
[            ALLOCAHEAD(YES|NO)                                ]
[            USEOFFLOADMIN(YES|NO)                             ]
[    STAGING                                                   ]
[            USESTAGINGMIN(YES|NO)                             ]
[    LOGRCDS                                                   ]   ←
[            ALLOWACCESS(YES|NO)                               ]   ←
[            USECDSTYPE(LOGR|LOGRY|LOGRZ)                      ]   ←
[ ZAI                                                          ]
[            SERVER(NONE|host_name|IP_addr)                    ]
[            PORT(port_num)                                    ]
[            TPNAME(transport_name)                            ]
[            LOGBUFMAX(value)                                  ]
[            LOGBUFWARN(nn)                                    ]
[            LOGBUFFULL(MSG|QUIESCE)                           ]
```

Usage & Invocation (continued) – SYS1.PARMLIB

Statements and parameters for IXGCNFxx

MANAGE

Provides the resource management policy for system logger.

LOGRCDS

- ✓ Specifies the system logger policy on the system that manages access to the sysplex scope LOGR couple data set (CDS).

- ✓ See “Prevent a z/OS image from accessing LOGR couple data sets” in *z/OS MVS Setting Up a Sysplex* for more information about LOGR CDS management.

Usage & Invocation (continued) – SYS1.PARMLIB

Statements and parameters for IXGCNFxx

ALLOWACCESS(YES | NO)

- ✓ Specifies whether the particular system will make use of the sysplex scope LOGR couple data sets when they are presented to system logger by the Cross-system Coupling Facility (XCF) component.
- ✓ System logger requires the use of at least a primary couple data set to perform its operations.
- ✓ However, some z/OS images within the sysplex should not have access to these couple data sets.
- ✓ See the allowable couple data set (CDS) data types for system logger use under the USECDSTYPE option.

Usage & Invocation (continued) – SYS1.PARMLIB

ALLOWACCESS(YES | NO)

YES Indicates that system logger should not inhibit attempts to make use of the sysplex scope LOGR couple data sets when they are presented by XCF on the z/OS image.

NO Indicates that system logger will not attempt to make use of the sysplex scope LOGR couple data sets that are presented by XCF on the z/OS image.

Because system logger requires the use of one or more couple data sets to perform its operations, do not specify this option unless it is clearly understood and intended.

See “Prevent a z/OS image from accessing LOGR couple data sets" in *z/OS MVS Setting Up a Sysplex* before using this option.

Usage & Invocation (continued) – SYS1.PARMLIB

USECDSTYPE(LOGR | LOGRY | LOGRZ)

LOGR Indicates that system logger, on the z/OS image using this SYS1.PARMLIB IXGCNFxx member, will make use of the sysplex-scope couple data sets for CDS data type LOGR, unless ALLOWACCESS(NO) is specified.

LOGRY Can only be specified with ALLOWACCESS(NO).
Indicates that system logger, on the one z/OS image using this SYS1.PARMLIB IXGCNFxx member, will make use of the single system-scope couple data sets for CDS data type LOGRY.

LOGRZ Can only be specified with ALLOWACCESS(NO).
Indicates that system logger, on the one z/OS image using this SYS1.PARMLIB IXGCNFxx member, will make use of the single system-scope couple data sets for CDS data type LOGRZ.

Usage & Invocation (continued) – System Messages

Display Logger message output: **IXG601I - assume using LOGRZ CDS**

D LOGGER,ST

IXG601I *hh.mm.ss* LOGGER DISPLAY *nnn*

SYSTEM LOGGER STATUS

SYSTEM	SYSTEM LOGGER STATUS
SY1	INITIALIZING
	MANAGE LOGRCDS ALLOWACCESS(NO) SPECIFIED
	USING SINGLE-SYSTEM SCOPE CDS DATA TYPE LOGRZ
	CDS FORMAT LEVEL: HBB77C0

Usage & Invocation (continued) – System Messages

Display Logger message output: **IXG601I - assume using LOGR CDS, & entered following logger command:**

D LOGGER,IXGCNF

IXG607I 16.47.33 LOGGER DISPLAY 164
LOGGER PARAMETER OPTIONS

KEYWORD	SOURCE	VALUE
CTRACE	IPL (XX)	CTILOG00
MONITOR OFFLOAD		
WARNALLOC	IPL (XX)	00030
ACTIONALLOC	IPL (XX)	00060
WARNRECALL	IPL (XX)	00060
ACTIONRECALL	IPL (XX)	00120
MONITOR LSPRIMARY		
CONSUMPTIONALERT	IPL (XX)	ALLOW
MANAGE OFFLOAD		
ALLOCAHEAD	IPL (XX)	YES
USEOFFLOADMIN	IPL (XX)	YES
MANAGE STAGING		
USESTAGINGMIN	IPL (XX)	YES
MANAGE HYPERWRITE		
ALLOWUSE	IPL (XX)	YES
MANAGE LOGRCDS		
ALLOWACCESS	IPL (XX)	YES
USECDSTYPE	**DEFAULT**	**LOGR** ←
ZAI		
SERVER	IPL (XX)	NONE
PORT	IPL (XX)	2001
TPNAME	IPL (XX)	NONE
LOGBUFMAX	IPL (XX)	02
LOGBUFWARN	IPL (XX)	75
LOGBUFFULL	IPL (XX)	MSG

Usage & Invocation (continued) – System Messages

XCF message **IXC358I**

DISPLAY XCF,COUPLE,TYPE=**LOGR**

IXC358I *hh.mm.ss* DISPLAY XCF *text*

. . .

ADDITIONAL INFORMATION:

LOGR COUPLE DATA SET FORMAT LEVEL: *formatlvl*
LSR(*lsrnum*) LSTRR(*lstrrnum*) DSEXTENT(*dsextentnum*)
SMDUPLEX(*smduplexnum*)

- *smduplexnum*
  - Specifies whether Logger should support XES system-managed structure duplexing:
    - 0 indicates Logger will not support system-managed structure duplexing. Results in LOGR CDS format level of HBB6603.
    - 1 indicates Logger will support system-managed structure duplexing. Results in LOGR CDS format level of HBB7705.

Usage & Invocation (continued) – System Messages

IXC358I (continued)

DISPLAY XCF,COUPLE,TYPE=**LOGRY** **or** **LOGRZ**

IXC358I hh.mm.ss DISPLAY XCF *text*

. . .

ADDITIONAL INFORMATION:

LOGRY COUPLE DATA SET FORMAT LEVEL: *formatlvl*

LSR(*lsrnum*) DSEXTENT(*dsextentnum*)
FMTLEVEL(fmtlevel*num*)

formatlvl

- Indicates the format level of this couple data set.
- HBB77C0 Indicates that this system logger single-system scope CDS was formatted at a z/OS V2R4 or higher release level.

fmtlevelnum

- Specifies the number for the item name FMTLEVEL when the single-system scope CDS was formatted.
  - **1** The resulting format level of the respective single-system scope LOGRY or LOGRZ couple data set is **HBB77C0** and is supported on z/OS V2R4 and later releases.

Usage & Invocation (continued) – System Messages

New Logger messages:

IXG081I SYSTEM *sysname* TO USE *scope* SCOPE CDS TYPE *cdstype*

e.g. IXG081I SYSTEM SY1 TO USE SYSPLEX SCOPE CDS TYPE LOGR

IXG082E SYSTEM *sysname* CANNOT USE SINGLE-SYSTEM SCOPE CDS TYPE *cdstype*, CDS TYPE IS ALREADY IN USE ON OTHER SYSTEM *osysname*

e.g. IXG082E SYSTEM SY1 CANNOT USE SINGLE-SYSTEM SCOPE CDS TYPE LOGRZ,
CDS TYPE IS ALREADY IN USE ON OTHER SYSTEM SY2

**IXG458E SYSTEM LOGGER IXCMIAPU UTILITY CDS TYPE INCONSISTENCY,
DATA TYPE(*reqtype*) SPECIFIED, BUT SYSTEM IS USING TYPE(*acttype*)**

e.g. IXG458E SYSTEM LOGGER IXCMIAPU UTILITY CDS TYPE INCONSISTENCY,
DATA TYPE(LOGR) SPECIFIED, BUT SYSTEM IS USING TYPE(LOGRZ)

IXG734I ALLOWACCESS(YES) SPECIFIED, USECDSTYPE SPECIFICATION IS IGNORED

Usage & Invocation (continued)

- APIs:·
  - IXGINVNT
    - service expanded and description includes handling (in addition to LOGR) two new system logger policy CDS data types: LOGRY and LOGRZ
  - IXGANSAA mapping macro
    - returned for IXGINVNT, IXGQUERY, and IXGCONN (request=connect) requests
    - flags indicating the CDS type (LOGR, LOGRY or LOGRZ) for system logger on the system where request is executed.
  - IXGENF mapping macro for ENF 48 signal exit parameter list for system logger events
    - flags indicating the CDS type (LOGR, LOGRY or LOGRZ) for system logger on the system where signal originated.

Usage & Invocation (continued)

- Logger APIs existing return/reason codes updated:
  - IxgConn
  - IxgDelet
  - IxgImprt
  - IxgInvnt
  - IxgQuery
  - IxgWrite

- IxgCon
  - constants & descriptions for reason codes that have LOGR refs that also need LOGRY & LOGRZ

Interactions & Dependencies

- To exploit this item, all systems in the sysplex must be at the new z/OS level:
  - No

- Software Dependencies
  - PTFs for logger and XCF APARs on z/OS v2r2 & z/OS v2r3 (toleration)
    (see Coexistence page)

- Hardware Dependencies
  - None

- Exploiters
  - Expect GDPS to make use of new CDS data types

Migration & Coexistence Considerations

- Toleration/coexistence APARs/PTFs - on z/OS v2r2 & z/OS v2r3:
  - Toleration PTFs for logger APAR → OA54815
  - Toleration PTFs for XCF APAR → OA57241
- No Migration considerations
- Only z/OS v2r4 and higher release levels will be able to make use of the new single-system scope logger CDS data types
  - z/OS v2r2 & v2r3 levels can be used to format new CDS data types, but not utilize them as an active CDS on those systems

Installation

- No special installation requirements
  - other than using z/OS v2r4

    with PTF for HBB77C0 OA54815 applied, and

  - having PTFs for APARs applied on pre-z/OS v2r4 systems

    for a mixed release level sysplex (see coexistence section)

Session Summary

- Understand new logger single-system scope CDS data types:
  - LOGRY
  - LOGRZ

- Ensure system environment is isolated from other sysplex systems when using either logger single-system scope CDS data type

- Enable log stream exploiters to make use of DasdOnly log streams defined in single-system scope CDS

- Continue to use installation utilities to access log data from log streams defined in single-system scope CDSs

- Update installation procedures when necessary on how/when to merge single-system scope log stream log data with sysplex scope log streams

Appendix:

A: Contacts

B: Publication references

C: New messages

D: SYS1.SAMPLIB JCL members

E: USECDSTYPE specifications

F: IXCMIAPU LIST LOGSTREAM data set list output sample

G: IxgAnsaa updates

H: IxgEnf updates

I: Noteworthy service since z/OS V2R3 GA

Appendix A: Contacts

- Doug Zobre zobes@us.ibm.com
- Jeffrey Ader jader@us.ibm.com
- Brian Keuling bkeuling@us.ibm.com

Appendix B: Publication references

- SA232300XX z/OS Summary of Message and Interface Changes
- SA231380XX z/OS MVS Initialization and Tuning Reference
- SA380666XX z/OS MVS System Commands
- SA231399XX z/OS MVS Setting Up a Sysplex
- SA231370XX z/OS MVS Programming: Assembler Services Reference IAR-XCT
- SA231373XX z/OS MVS Programming: Authorized Assembler Services Reference EDT-IXG
- SA231368XX z/OS MVS Programming: Assembler Services Guide
- SA231371XX z/OS MVS Programming: Authorized Assembler Services Guide
- SA380677XX z/OS MVS System Messages, Vol 10 (IXC-IZP)
- GA320904XX z/OS MVS Diagnosis: Reference
- GA320937XX z/OS MVS Data Areas Volume 3 (ITK - SCE)

Appendix C: New Messages

IXG081I SYSTEM *sysname* TO USE *scope* SCOPE CDS TYPE *cdstype*

Explanation: System logger will make use of the identified couple data set type on this system.

In the message text:

sysname

Is the system name of the affected system.

scope

One of the following-

SYSPLEX
SINGLE-SYSTEM

Appendix C: New Messages (continued)

IXG081I continued…

cdstype

One of the following:

LOGR is the system logger sysplex scope couple data set type.
LOGRY is a system logger single-system scope couple data set type.
LOGRZ is a system logger single-system scope couple data set type.

System Action: Processing continues, and system logger will use the noted CDS data type on this system.

Appendix C: New Messages

IXG082E SYSTEM *sysname* CANNOT USE SINGLE-SYSTEM SCOPE CDS TYPE *cdstype*, CDS TYPE IS ALREADY IN USE ON OTHER SYSTEM *osysname*

Explanation: System logger detected that the noted single-system scope couple data set (CDS) type was already in use on another system in the sysplex.
Only one system at a time can make use of this system logger CDS data type.

In the message text:

sysname

Is the system name of the affected system.

cdstype

One of the following:
LOGRY is the system logger single-system scope couple data set type.
LOGRZ is the system logger single-system scope couple data set type.

Appendix C: New Messages (continued)

IXG082E continued…

osysname

Is the name of the other system already using the single-system scope couple data set type.

System Action: System logger will not make use of the identified single-system scope couple data set type on this system.

The IXGLOGR address space will terminate,

and system logger services will not be available on this system.

Appendix C: New Messages (continued)

IXG082E continued…

System programmer response: The action to take depends upon the expectation to use the single-system scope couple data set type on this system.

If this system should not be using the specific single-system scope CDS, then do the following:

1. Update the IXGCNFxx parmlib member to change the MANAGE LOGRCDS statement for the ALLOWACCESS and USECDSTYPE keywords to specify a different system logger couple data set type to use on this system.
2. Then re-IPL this system to start using the correct couple data set type.

Appendix C: New Messages (continued)

IXG082E continued…

If the system that issued the IXG082E message is intended to be using the specific single-system scope CDS, then consider doing the following:

1. Cause the other system, noted in the IXG082E message that is already using the single-system CDS type, to be brought down (become inactive).
2. Then for this system that is intended to use the specific single-system scope CDS type, do one of the following:
   - Re-IPL this system.
   - An alternative to the re-IPL is to start the procedure to get the IXGLOGR address space started (re: S IXGLOGRS) again on this system.
   - To have system logger recognize the single-system CDS type as still being available, enter the command
   - SETXCF COUPLE,TYPE=cdstype,PCOUPLE(dsn,vol),... on the same system.

   . . .

Appendix C: New Messages (continued)

IXG082E continued…

. . .

3. For the other system, previously brought down, update its IXGCNFxx parmlib member to change the MANAGE LOGRCDS statement for the ALLOWACCESS and USECDSTYPE keywords to specify a system logger couple data set type to use for that system.

   Then re-IPL that system to start using the correct couple data set type.

- Routing code: 1, 10
- Descriptor code: 11

Appendix C: New Messages (continued)

IXG458E SYSTEM LOGGER IXCMIAPU UTILITY CDS TYPE INCONSISTENCY, DATA TYPE(*reqtype*) SPECIFIED, BUT SYSTEM IS USING TYPE(*acttype*)

Explanation: The IXCMIAPU utility requested DATA TYPE specification (*reqtype*) identifies a system logger policy couple data set that is not consistent with the active policy couple data set type (*acttype*) being used on the system where the utility was executing.

In the message text:

reqtype

One of the following-
LOGR is the system logger sysplex scope couple data set type.
LOGRY is a system logger single-system scope couple data set type.
LOGRZ is a system logger single-system scope couple data set type.

Appendix C: New Messages (continued)

IXG458E continued…

acttype

One of the following-

LOGR is the system logger sysplex scope couple data set type.
LOGRY is a system logger single-system scope couple data set type.
LOGRZ is a system logger single-system scope couple data set type.

System action: The IXCMIAPU utility processing ends with an error return code 8. No operations were performed on either the requested DATA TYPE couple data set policy or for the active system logger couple data set policy on the system where the utility executed.

Appendix C: New Messages (continued)

IXG458E continued…

Operator response: None.

System programmer response: If necessary, resubmit the IXCMIAPU uility on the appropriate system using the *reqtype* system logger couple data set policy. Or if appropriate, change the DATA TYPE(*reqtype*) specification to align with the *acttype* system logger couple data set policy, and resubmit IXCMIAPU utility to execute on the correct system.

Appendix C: New Messages (continued)

IXG734I ALLOWACCESS(YES) SPECIFIED, USECDSTYPE SPECIFICATION IS IGNORED

Explanation: The system logger configuration parameter combination of ALLOWACCESS(YES) with a USECDSTYPE(value) other than LOGR is not supported. System logger ignores the USECDSTYPE specification.

System Action: Processing continues, and system logger will use the sysplex scope LOGR CDS type on this system.

Operator response: If the sysplex scope LOGR couple data set is intended to be used on this system, then allow processing to continue.
If not, then update your IXGCNFxx member in SYS1.PARMLIB with the correct MANAGE LOGRCDS ALLOWACCESS and USECDSTYPE parameters for the desired settings, and re-IPL the system.

Appendix D: SYS1.SAMPLIB JCL members

IXGLOGZF

- sample JCL to define (format) single-system scope LOGRY & LOGRZ CDS types

IXGLOGZP

- sample JCL to define single-system scope policy information in LOGRY & LOGRZ CDS

Appendix D: SYS1.SAMPLIB JCL (continued) IXGLOGZF

```
//IXGLOGZF JOB
//*
//STEP1 EXEC PGM=IXCL1DSU
//STEPLIB  DD   DSN=SYS1.MIGLIB,DISP=SHR
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
  DEFINEDS SYSPLEX(XLSDEV)
     DSN(SLC.FDSS24YA) VOLSER(LOGVL1)
     MAXSYSTEM(nn)
   DATA TYPE(LOGRY)
          ITEM NAME(LSR)           NUMBER(10)
          ITEM NAME(DSEXTENT)  NUMBER(20)
          ITEM NAME(FMTLEVEL)  NUMBER(1)
  DEFINEDS SYSPLEX(XLSDEV)
      DSN(SLC.FDSS24YB) VOLSER(LOGVL2)
      MAXSYSTEM(nn)
   DATA TYPE(LOGRY)
          ITEM NAME(FMTLEVEL)  NUMBER(1)
          ITEM NAME(LSR)           NUMBER(10)
          ITEM NAME(DSEXTENT)  NUMBER(20)
/*
```

Appendix D: SYS1.SAMPLIB JCL (continued) IXGLOGZP

```
//IXGLOGZP JOB
//*
//STEP1 EXEC PGM=IXCMIAPU
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
  DATA TYPE(LOGRZ) REPORT(YES)
  DEFINE LOGSTREAM NAME(STREAM1)
                DASDONLY(YES)
                LS_STORCLAS(STANDARD)
  DEFINE LOGSTREAM NAME(STREAM2)
                LIKE(STREAM1)
                MAXBUFSIZE(40000)
  DEFINE LOGSTREAM NAME(STREAM3)
                DASDONLY(YES)
                STG_DATACLAS(VSAMSTG)
  UPDATE LOGSTREAM NAME(STREAM1)
                 LS_DATACLAS(VSAMLS)
  UPDATE LOGSTREAM NAME(STREAM2)
                 RETPD(60)
  UPDATE LOGSTREAM NAME(STREAM3)
                 AUTODELETE(YES) RETPD(30)
  DELETE LOGSTREAM NAME(STREAM2)
  LIST LOGSTREAM NAME(STREAM*) DETAIL(YES)
/*
```

Appendix E: USECDSTYPE specification

MANAGE LOGRCDS ALLOWACCESS(YES | NO)

USECDSTYPE(LOGR | LOGRY | LOGRZ)

- ✓ Specifies the couple data set (CDS) data type to be used by system logger on the z/OS image. The default CDS data type is **LOGR**, which refers to the sysplex scope primary and alternate couple data sets.

- ✓ The LOGRY or LOGRZ option can only be specified when ALLOWACCESS(**NO**) is specified. For these specifications, system logger will not attempt to make use of the sysplex scope **LOGR** couple data sets, but system logger services will be available on that single system with an isolated system view within the sysplex.

Appendix E: USECDSTYPE specification (continued)

USECDSTYPE(LOGR | LOGRY | LOGRZ)

- ✓ When either **LOGRZ** or **LOGRY** is specified, then system logger will make use of the single-system-scope primary and alternate couple data sets of that specified CDS data type.

- ✓ See "Using LOGRZ or LOGRY couple data sets for a single-system scope within a sysplex" in *z/OS MVS Setting Up a Sysplex* for more information about the system logger management of these unique single-system scope CDS types. Only one (1) z/OS image at a time within the sysplex can make use of either CDS data type **LOGRZ** or **LOGRY.**

Appendix E: USECDSTYPE specification (continued)

USECDSTYPE(**LOGR** | LOGRY | LOGRZ)

The following list of restrictions apply to specifying the USECDSTYPE option:

- If LOGRY or LOGRZ is specified for USECDSTYPE along with ALLOWACCESS(YES), then error message IXG735I will be issued indicating the inconsistent specifications. Since system logger is unable to determine the correct CDS data type to use on this system, system logger will be unavailable for the life of the IPL.

- The USECDSTYPE option is not allowed to be changed on SET IXGCNF and SETLOGR MANAGE commands or if the IXGLOGR address space is later restarted. If a change is intended, then a re-IPL of the system is needed using the new options.

You can use the DISPLAY LOGGER,IXGCINF[,MANAGE] command to view the system logger configuration parameter settings.

Default: **LOGR**

Appendix F: IXCMIAPU LIST LOGSTREAM data set list output sample

```
//LIST1Z  JOB
//STEP1 EXEC PGM=IXCMIAPU
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
  DATA TYPE(LOGRZ) REPORT(YES)
   LIST   LOGSTREAM NAME(*) DETAIL(YES)
/*
```

Next 3 pages contain excerpts from sample output for above JCL:

- Logstream attributes
- Logstream details info – just offload data set portion
  - Note, the <SEQ#> column contains offload data set low level qualifiers starting with **AZ**nnnnnn since this is for a single-system scope LOGRZ CDS.
  - If a single-system scope **LOGRY** CDS was being used, then **AY**nnnnnn would be revealed.
- The job report summary portion

Appendix F: IXCMIAPU LIST LOGSTREAM data set list output sample (continued)

```
ADMINISTRATIVE DATA UTILITY:  MESSAGES          DATA TYPE = LOGRZ        11/15/2018 14:05:06        PAGE   2

IXG005I LOGRZ POLICY PROCESSING LINE# 2


LOGSTREAM NAME(COPYLOG.SOURCE) STRUCTNAME() LS_DATACLAS()
          LS_MGMTCLAS() LS_STORCLAS() HLQ(SMALLHLQ) MODEL(NO) LS_SIZE(24)
          STG_MGMTCLAS() STG_STORCLAS() STG_DATACLAS() STG_SIZE(500)
          LOWOFFLOAD(0) HIGHOFFLOAD(80) STG_DUPLEX(YES) DUPLEXMODE(UNCOND)
          RMNAME() DESCRIPTION(MYDESCRIPTION) RETPD(0) AUTODELETE(NO) OFFLOADRECALL(YES)
          ZAI(NO) ZAIDATA('NO_ZAIDATA') WARNPRIMARY(NO) LS_ALLOCAHEAD(0)
          DASDONLY(YES) DIAG(NO) LOGGERDUPLEX(UNCOND) EHLQ(NO_EHLQ) GROUP(PRODUCTION)
          MAXBUFSIZE(65532)


. . .
```

< more on next page >

Appendix F: IXCMIAPU LIST LOGSTREAM data set list output sample (continued)

```
. . .

DATA SET NAMES IN USE: SMALLHLQ.COPYLOG.SOURCE.<SEQ#>

          Ext.   <SEQ#>    Lowest Blockid /  Highest GMT /      Highest Local /    Status
                            Highest Blockid   Highest RBA        System Name
          -----  --------  ----------------  -----------------  -----------------  ------------------------
          *00001  AZ000000  0000000000000001  11/15/18 18:04:37  11/15/18 14:04:37
                            000000000001E5F1  000218E0           SY1
                 AZ000001  0000000000218E1  11/15/18 18:04:38  11/15/18 14:04:38
                            000000000003B061  0001CA70           SY1
                 AZ000002  000000000003E351  11/15/18 18:04:39  11/15/18 14:04:39
                            000000000005E0B1  00023050           SY1
                 AZ000003  0000000000613A1  11/15/18 18:04:40  11/15/18 14:04:40
                            000000000007AB21  0001CA70           SY1
                 AZ000004  000000000007DE11  11/15/18 18:04:41  11/15/18 14:04:41
                            0000000000097591  0001CA70           SY1
                 AZ000005  000000000009A881  11/15/18 18:04:41  11/15/18 14:04:41  CURRENT
                            000000000009DB71  000065E0           SY1

           NUMBER OF DATA SETS IN LOG STREAM: 6

. . .
```

< more on next page >

Appendix F: IXCMIAPU LIST LOGSTREAM data set list output sample (continued)

```
. . .
LOGRZ Inventory Record Summary:

LOGRZ COUPLE DATA SET FORMAT LEVEL: HBB77C0

 /* Functional Items:  */
 /* FMTLEVEL(1)    */

Type                          Formatted             In-use
------------------            ---------             ------
LSR (Log Stream)                    26                  1
DSEXTENT (Data Set Extent)          16                  0

. . .
```

< logstream definition attributes . . . >

Appendix G: IxgAnsaa updates

IXGANSAA

Dec	Hex	Type	Len	Name(Dim) / Description
38	(26)	BITSTRING	1	ANSAA_FLAGS3(0)
38	(26)	BITSTRING	1	ANSAA_USECDSTYPE(0) CDS data type indication
		1...		ANSAA_USECDSTYPEISSET "X80" For IXGCONN REQUEST=CONNECT, IXGINVNT, and IXGQUERY requests: when on, means one of the following CDS data type flags is set on when off, means sysplex scope LOGR CDS type expected for use on this system CDS data type indication
		.1..		ANSAA_USECDSTYPELOGR "X40" (valid only when Ansaa_UseCdsTypeIsSet is on, otherwise undefined) when on, means sysplex scope CDS type LOGR expected for use on this system

Appendix G: IxgAnsaa updates (continued)

Dec	Hex	Type	Len	Name(Dim) / Description
38	(26)	BITSTRING	1	ANSAA_USECDSTYPE(0)
. . .				
		..1.		ANSAA_USECDSTYPELOGRY "X20" (valid only when Ansaa_UseCdsTypeIsSet is on, otherwise undefined) when on, means single-system scope CDS type LOGRY expected for use on this system
		...1		ANSAA_USECDSTYPELOGRZ "X10" (valid only when Ansaa_UseCdsTypeIsSe is on, otherwise undefined) when on, means single-system scope CDS type LOGRZ expected for use on this system
39	(27)	BITSTRING	1	ANSAA_FLAGS4

Appendix H: IxgEnf updates

IXGENF

Dec	Hex	Type	Len	Name(Dim) / Description
4	(4)	CHARACTER	5	IXGENFCOMPONENT Component Acronym
9	(9)	BITSTRING	1	IXGENFUSECDSTYPE(0) CDS data type indication
		1...		IXGENFUSECDSTYPEISSET "X80" when on , means one of the following CDS data type flags is set on when off, means sysplex scope LOGR CDS type expected for use on the system originating the ENF signal
		.1..		IXGENFUSECDSTYPELOGR "X40" (valid only when IxgenfUseCdsTypeIsSet is on, otherwise undefined) when on, means sysplex scope LOGR CDS type expected for use on the system originating the ENF signal

Appendix H: IxgEnf updates (continued)

Dec	Hex	Type	Len	Name(Dim) / Description
9	(9)	BITSTRING	1	IXGENFUSECDSTYPE(0) CDS data type indication
. . .				
		..1.		IXGENFUSECDSTYPELOGRY "X20" (valid only when IxgenfUseCdsTypeIsSet is on, otherwise undefined) when on, means single-system scope LOGRY CDS type expected for use on the system originating the ENF signal
		...1		IXGENFUSECDSTYPELOGRZ "X10" (valid only when IxgenfUseCdsTypeIsSet is on, otherwise undefined) when on, means single-system scope LOGRZ CDS type expected for use on the system originating the ENF signal
10	(A)	CHARACTER	2	Unused
12	(C)	BITSTRING	4	IXGENFEVENTS(0) Event Flags

Appendix I: Noteworthy service since z/OS V2R3 GA

date - PTFs generally available
790 - z/OS V2R1
7A0 - z/OS V2R2
7B0 - z/OS V2R3

(circa 2019)

enhancements:

OA56050 - WriteOnly access	2019/*mm/dd*	7B0	*(coming soon)*

corrective fixes:

OA56659 - sec/int c3/c2	2019/02/06	7A0
OA56363 - sec/int c2/i2	2019/01/03	7A0

Appendix I: Noteworthy service since z/OS V2R3 GA (continued)

(circa 2018)

enhancements:

OA54949 - ICSF early avail	2018/10/31	7A0	
OA57187 - zHyperWrite	2019/04/xx	7A0	PTF cover correction
OA54814 - zHyperWrite	2018/09/27	7A0	exploitation
OA55079 - zHyperWrite	2018/09/12	790	preconditioning

corrective fixes:

OA54119 - f1trx 1c5,70021	2018/11/29	790	
OA55777 - 0c4 A1mm	2018/10/17	790	
OA56030 - ixg708 min ctrace	2018/09/19	7B0	hiper

Appendix I: Noteworthy service since z/OS V2R3 GA (continued)

(circa 2017)

enhancements:

OA53111 - stack affinity	2017/10/25	7A0	

corrective fixes:

OA54557 - sgstg 1c5,F0009	2017/12/27	790	hiper
OA51771 - 804, index wrap	2017/11/04	780	
OA53991 - 1C5,F0009 D2wrt	2017/10/18	790	
OA53931 - 1c5,a0009 a1wrt	2017/10/18	790	
OA52479 - loop f2brw lbcb's	2017/10/11	790	