

# IBM Education Assistance for z/OS V2R3

**>4GB logstream staging datasets  
& removal of DRXRC duplex mode**

Element/Component: BCP system logger

# Agenda

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

# Trademarks

- See url <http://www.ibm.com/legal/copytrade.shtml> for a list of trademarks.
- Additional Trademarks:
  - None

# Session Objectives

**Be aware of:**

**z/OS v2r3 enhancements / changes:**

- **Removal of DRXRC duplex mode logstream support**
- **Support >4GB logstream staging datasets**
- **plus use minimum default logstream data set sizes**

**Enhancements available on field releases (see appendix):**

- **logger migration health check, re: DRXRC duplex mode removal (OA49507)**
- **setlogr force,delete,lsn=logstream\* command with wild card (OA50219)**
- **logstream subsys exit routine name (OA51174)**
- **next log blockid during import, query after CF structure rebuild (OA51334)**
- **support concurrent logstream browse requests on the same system (OA48933)**

## Overview – Removal of DRXRC duplex mode logstream support

- Problem Statement / Need Addressed
  - January 2015 Statement Of Direction indicated z/OS V2.2 is planned to be the last release to support the DRXRC logstream duplex option.
- Solution (in z/OS v2r3 release)
  - the option will no longer result in the asynchronous management of a logstream staging dataset.
  - Will be managed as if DUPLEXMODE(COND) was specified
- Benefit / Value
  - Removes unused (& undesirable) logstream duplex method

## Overview – Support >4GB logstream staging datasets

- Problem Statement / Need Addressed
  - Logstream staging datasets are limited to 4GB in size
    - used to duplex log data in primary media
  - CF structure logstreams have more recently been sized in terms of GBs
  - so 4GB staging dataset limit can reduce amount of log data housed in primary media
- Solution (in z/OS v2r3 release)
  - Allow logstream staging datasets to be >4GB
- Benefit / Value
  - Complements large CF structures sizes for logstream use when duplex configured with staging dataset(s)

## Overview – Use minimum default logstream data set sizes

- Problem Statement / Need Addressed
  - Logstream dataset sizes, often offload data sets and staging data sets are defined to very small sizes (less than recommended 1MB for offload and 10MB for staging)
  - Can result in very inefficient logstream data flow and exploiter expectations
- Solution (in z/OS v2r3 release)
  - If LS\_SIZE not specified and offload data set less than 1MB, then logger will created new data set at least **1MB** in size
  - If STG\_SIZE not specified and staging data set less than 10MB, then logger will created new data set at least **10MB** in size
  - Predicated on new IXGCNFxx parmlib settings that allow it as default, can change so logger does not use 1MB or 10MB minimums
- Benefit / Value
  - Results in at least minimum system logger recommended sizes being used, which should aid in logstream usage

# Usage & Invocation

## IBM recommends you:

- stop using the logstream DUPLEXMODE(DRXRC) option (if in use now) regardless of your system release level
- do not include use of the DRXRC option in any future plans
- make use of other available logger duplex capabilities and mirroring options
- see Appendix B for additional details on migration health check aid



# Usage & Invocation (continued)

New allowable maximum **staging** dataset size up to

**16 TB** (i.e. 16,384 GB or 17,592,186,044,416 bytes)

–

– refer to logstream STG\_DATACLAS value:

- DFSMS data class:

- Data Set Name Type "EXT" (extended format)

- Extended Addressability "Y" (EAS)

- Clsize remains 4K (4096)

# Usage & Invocation (continued)

Messages IXG256I, IXG283I and IXG601I updated:

IXG256I can now indicate if logger used **1MB** or **10MB** for default minimum data set size

IXG283I *datasettype* DATASET *datasetname*  
*alloctype* FOR LOGSTREAM *logstream*  
CISIZE=*csizeKB*, SIZE=*size*

where *size* in format *gggggGB*, *mmmmMB*, *kkkkKB*  
(with only the highest and necessary factors displayed)

for example, if the data set size is 10,485,760 bytes, then the message would contain  
SIZE=10MB

IXG601I ... SIZE=*nnnnnnnnnn* (used to be 6 digits, now 10)

If the new logstream data set size management behavior is not appropriate for your installation, then provide an IXGCNFxx member in SYS1.PARMLIB that specifies

MANAGE OFFOAD **USEOFFLOADMIN(NO)**  
MANAGE **STAGING USESTAGINGMIN(NO)**

as needed for the appropriate log stream data set types

# Interactions & Dependencies

None

# Migration & Coexistence Considerations

- **Removal of DRXRC duplex mode logstream support**
  - refer to APAR OA49507
    - migration health check: DRXRC specified (in 2016, see appendix)
- **Support >4GB logstream staging datasets**
  - refer to APAR OA49506
    - coexist/toleration for datasets created on v2r3 >4GB
- **Minimum log stream data set sizes**
  - Only in z/OS v2r3
    - if no LS\_SIZE or STG\_SIZE (with new default parmlib settings), then sized at 1MB and 10MB

# Installation

- PTFs for APAR OA49506 for n-2 coexistence needed
  - Required, when staging data sets are created greater than 4GB in size
    - UA92245 HBB77A0
    - UA92246 HBB7790
- Consider keywords in IXGCNFxx member of SYS1.PARMLIB in V2R3:
  - `MANAGE OFFLOAD`  
`USEOFFLOADADMIN(YES)`
  - `MANAGE STAGING`  
`USESTAGINGMIN(YES)`

# Session Summary

**You should now be aware of:**

**z/OS v2r3 enhancements / changes:**

- **DRXRC duplex mode is gone**
- **logstream staging datasets can be larger than 4GB**
- **when logger uses (1MB or 10MB) default logstream data set sizes**

**And you will soon be more aware of recent enhancements available on field releases (see appendices):**

- **logger migration health check, re: DRXRC duplex mode removal (OA49507)**
- **setlogr force,delete,lsn=logstream\* command with wild card (OA50219)**
- **logstream subsys exit routine name (OA51174)**
- **next log blockid during import, query after CF structure rebuild (OA51334)**
- **support concurrent logstream browse requests on the same system (OA48933)**

# Appendices

- Appendix A: publications
- Appendix B: **logger migration health check, re: DRXRC duplex mode removal (OA49507)**
- Appendix C: **setlogr force,delete,lsn=logstream\* command with wild card (OA50219)**
- Appendix D: **logstream subsys exit routine name (OA51174)**
- Appendix E: **next log blockid during import, query after CF structure rebuild (OA51334)**
- Appendix F: **support concurrent logstream browse requests on the same system (OA48933)**

# Appendix A: publications

*z/OS MVS Migration to z/OS V2R3 from z/OS V1R13, z/OS V2R1 and z/OS V2R2*

*IBM Health Checker for z/OS User's Guide*

*z/OS V2R3 Introduction and Release Guide*

*z/OS V2R3 Summary of Message and Interface Changes*

*z/OS MVS Initialization and Tuning Reference*

*z/OS MVS Setting Up a Sysplex*

*z/OS MVS System Commands*

*z/OS MVS System Messages, Vol 10 (IXC-IZP)*

*z/OS MVS Assembler Services Reference IAR-XCT*

*z/OS MVS Assembler Services Guide*

*z/OS MVS Diagnosis: Reference*



# Appendix B:

## logger migration health check, re: DRXRC duplex mode removal (OA49507)

- *Problem Statement / Need Addressed*
  - z/OS V2R2 was announced (Jan. 2015) as being the **last release** for system logger to support the DRXRC duplex option
- *Solution*
  - provide a new migration health check (ZOSMIGV2R2\_NEXT\_IXG\_REMOVE\_DRXRC)
  - to aid in identifying whether any logstream is defined in the sysplex with the DUPLEXMODE(DRXRC) attribute
- *Benefit / Value*
  - allows for early awareness of being all clear or if any warnings exist for an installation to take remedial action

## Appendix B: (continued)

### logger migration health check, re: DRXRC duplex mode removal (OA49507 continued)

- OA49507 provided on z/OS v1r13, v2r1 and v2r2:

FMID	PTF
HBB77A0	UA81984
HBB7780	UA81985
HBB7790	UA81986

- IPL is required after apply
- See PTF cover letters for enhancement and documentation info
- Additional Searchable keywords: (for applicable PSP buckets)
  - SYSPLEXDS
  - IBM.Function.HealthChecker
  - ZOSMIGV2R2\_Next

# Appendix C:

## **setlogr force,delete,lsn=logstream\* command with wild card (OA50219)**

- Problem Statement / Need Addressed
  - zCloud provisioning support needed mechanism to delete logstreams with similar names after work flow completed
- Solution
  - A wildcard (\*) character at end of string now allowed on command SETLOGR FORCE,DELETE,LSName=*logstream\**
  - will cause logger to operate on all the log streams with names matching the input pattern.
- Benefit / Value
  - Provided necessary capability, and can be useful for any/all exploiters
- OA50219 provided on z/OS v2r1 and v2r2:

FMID	PTF
HBB77A0	UA82984
HBB7790	UA82986

# Appendix D:

## logstream subsys exit routine name (OA51174)

- Problem Statement / Need Addressed
  - re: JCL DD SUBSYS=(LOGR,*exit\_routine\_name*,subsys-options1,subsys-options2)
  - Security vulnerability in system logger (tracking number W609)
- Solution
  - Define a RACF profile in FACILITY class to protect logger resource IXGLOGR.SUBSYS.LSEXIT.*exit\_routine\_name*
  - And provide appropriate access for required users of *exit\_routine\_name*
  - Exceptions: IXGSEXIT, IFASEXIT, IFBSEXIT, or DFHLGCNV
- Benefit / Value
  - enables effective protective use of logstream subsystem exit routine names
- OA51174 provided on z/OS v1r13, z/OS v2r1 and v2r2:

FMID	PTF
HBB77A0	UA83059
HBB7780	UA83066
HBB7790	UA83060

# Appendix E:

## **next log blockid during import, query after CF structure rebuild (OA51334)**

- Problem Statement / Need Addressed
  - If a CF structure rebuild occurred while an import connect exists, logger can return on an IxgQuery a value higher than expected for the next logical sequential log block to be imported. A subsequent IxgImprt request could receive an error indication, return code 8, reason code 08D9x (IxgRsnCodeBadImportBlockID) and logger would not accept that attempted imported log block for the logstream.
- Solution
  - Logger now provides a more consistent view of next expected log block identifier after note circumstances occur
- Benefit / Value
  - Enables expected log blocks to be properly imported into a logstream
- OA51334 provided on z/OS v2r1 and v2r2:

FMID	PTF
HBB77A0	UA83637
HBB7790	UA83638

# Appendix F:

## **support concurrent logstream browse requests on the same system (OA48933)**

- Problem Statement / Need Addressed
  - All IXGBRWSE (browse) requests to one logstream on same system were sequentially serialized via exclusive latch
- Solution
  - Employ shared latch for read-type browse requests
  - Only use exclusive latch when necessary (e.g. for control block management)
- Benefit / Value
  - Allows multiple-concurrent browse (read-type) requests on same system to a logstream
- OA48933 provided on z/OS v2r1 and v2r2:

FMID	PTF
HBB77A0	UA79883
HBB7790	UA79884