Enhancements

This chapter describes the enhancements made to Adabas Parallel Services in version 7.5.

- Shared 64-Bit Addressable Virtual Storage

- CLUCACHETYPE: Type of the Global Cache

- New Messages

Shared 64-Bit Addressable Virtual Storage

On z/OS systems running version 1 release 5 or later, global cache data can now be maintained in two ways: the traditional dataspace and shared 64-bit addressable virtual storage. When only a dataspace is used for global cache, the maximum size is 2 GB, a limit imposed by the operating system. However, using 64-bit addressable virtual storage for global cache, the operating system's virtual storage constraint is eased and the maximum size of the cache is now extended from 2 GB to tens of GB.

To accommodate the shared 64-bit global cache, a new ADARUN parameter, CLUCACHETYPE, has been added and use of the CLUCACHESIZE parameter has been slightly modified. When CLUCACHETYPE is set to V64 (activating the shared 64-bit global cache), the CLUCACHESIZE parameter is used to specify the amount of shared 64-bit virtual storage to use for cached data.

To use shared 64-bit global cache, Adabas Parallel Services version 7.5 must be running under z/OS version 1 release 5 or later. Your systems programmers must also enable shared 64-bit virtual storage in SYS1.PARMLIB.

For more information about using 64-bit addressable virtual storage, read *Global Cache Storage Options*.

CLUCACHETYPE: Type of the Global Cache

Parameter	Specify...	Possible Values	Default
CLUCACHETYPE	the virtual storage construct for the global cache.	DSP	V64	DSP

Use the CLUCACHETYPE parameter of ADARUN to specify the virtual storage construct for global cache. Valid values are DSP (available on all supported operating systems) and V64 (available only on z/OS systems running version 1 release 5 or later).

The default value is DSP, indicating a dataspace of the size specified by the CLUCACHESIZE parameter of ADARUN will be used for both control structures and cached data. When only a dataspace is used for global cache, the maximum size is 2 GB, a limit imposed by the operating system.

If V64 is specified, the setting of the CLUCACHESIZE parameter is used to specify the amount of shared 64-bit virtual storage that will be used for cached data. In this case, a dataspace will still be created to contain control structures such as cache directories and indices. It is not necessary to specify the size of the control structure dataspace, but note that the dataspace is constrained by its 2 GB limit for control structures. Consequently, the maximum size of the shared 64-bit cache depends on ADARUN parameters DIRRATIO and ELEMENTRATIO (the ratio of directory entries to data elements) and the block sizes of

the DATA and ASSO database files.

To use the 64-bit global cache, Adabas Parallel Services must be running under z/OS version 1 release 5 or later. Your systems programmers must also enable shared 64-bit virtual storage in SYS1.PARMLIB.

New Messages

The following new messages were added or changed to support the use of 64-bit addressable virtual storage for the global cache.

ADAS21   **REPLACED SVC CSA NOT RELEASED, *nn* PENDING RESOURCE MANAGERS**

Explanation: ADASIP is being used to reinstall a copy of the ADABAS SVC, replacing an existing instance that was installed in CSA with ADASIP. ADASIP cannot release the CSA storage used by the existing instance because one or more z/OS Resource Manager routines may be pending.

Action: ADASIP installs the new SVC instance and does not release the CSA used by the previous instance.

ADAS30   ***nn* SVC WORKAREAS RELEASED**

Explanation: During termination, the server will release work areas that were obtained in the server's address space by the SVC to process user commands. The number of work areas is the high-water mark of the number of simultaneous processes.

Action: Information only, no action required.

ADAS31   **SERVICE ABTERM RESOURCE MANAGER { ADDRSPC TERM | TASK TERM}**
                       SERVICE ABTERM RESOURCE MANAGER RELEASED IDTE

Explanation: A z/OS Resource Manager recovery routine was entered after a server address space abend to release the IDTE.

Action: If the release was successful, it will not be necessary to specify ADARUN FORCE=YES when restarting.

ADAS32   **S64** *scope* **AFFINITY RESOURCE MANAGER** *event*
                S64 OBJECT AT *address*
                S64 OBJECT USER TOKEN IS *token*
                S64 *scope* **AFFINITY RELEASED**
                S64 *scope* **AFFINITY RELEASED** *return-code/reason-code*

Explanation: A z/OS Resource Manager recover routine was entered after an abend to release a local
or system affinity to a z/OS-shared 64-bit addressable memory object. Any non-zero
return code received from z/OS IARV64 is shown.

Action: If the attempt fails, examine the IARV64 return and reason code description in IBM
documentation. If the cause is not clear, notify your Software AG technical support
representative.

ADAX5B   *dbid* **CONNECTING TO S64 CACHE AT** *address*
                dbid **CONNECT TO S64 CACHE RETURN CODE** *ADAIOR - rc/zOS-rc/zOS-rc*
                DISCONNECTING FROM S64 CACHE
                DISCONNECT FROM S64 CACHE RETURN CODE *ADAIOR-rc/zOS-rc/zOS-rc*

Explanation: Adabas Parallel Services is using z/OS shared 64-bit addressable storage as part of its
cache configuration. Connecting to the S64 object establishes a local affinity and
makes the object addressable. Disconnecting deletes the affinity, after which the object
is no longer addressable. Any non-zero return code received from z/OS IAFV64 is
formatted.

Action: If the attempt fails, examine the IARV64 return and reason code description in IBM
documentation. If the cause is not clear, notify your Software AG technical support
representative.

DSP003   **DATASPACE MAY ALREADY EXIST, ATTEMPTING DELETE**

Explanation: If the first member nucleus of an Adabas Parallel Services cluster attempts to allocate a
dataspace, a dataspace may already exist, possibly as the result of a previous abend for
which recovery was unsuccessful. The deletion attempt will generate DSP005
messages, after which the allocation attempt will be retried.

Action: If you receive an error due to invalid sizes, review your ADARUN parameters, correct
the error, and restart ADACOM. All other messages are for information only and
require no action.

DSP010   **S64 OBJECT BEING ALLOCATED I {CACHE | LOCK | MESSAGE}**
                S64 OBJECT MAY ALREADY EXIST AT *address*
                ATTEMPTING DELETE
                ALLOCATION TOKEN IS *token*
                REQUESTED SIZE IN MB (ROUNDED) IS *size*
                FUNCTION COMPLETED NORMALLY
                ADDRESS IS *address*
                ERROR: RETURN CODE 12, REASON CODE *zOS-re zOS-reason-code*
                ERROR: RETURN CODE 12, REASON CODE *zOS-re zOS-reason-code*
                ERROR:ABEND CODE *system-code*, **REASON CODE** *reason-code*

Explanation: This series of messages describe an attempt to allocate a shared 64-bit addressable
                memory object of the specified type. If the allocation is successful, the address of the
                object is shown. If ADAIOR reports return code 12, the z/OS return and reason codes
                are shown. If the request resulted in an abend, the system and reason codes are shown.

                If the first member nucleus of an Adabas Parallel Services cluster attempts to allow a
                S64 object, one may already exist, possibly as the result of a previous abend for which
                recovery was unsuccessful. The deletion attempt will generate DSP01I messages, after
                which the allocation attempt will be retried.

Action: If the request fails, examine the z./OS IARV64 abend, return, and reason code
                descriptions in IBM documentation. If the cause is not clear, notify you Software AG
                technical support representative.

DSP011   **S64 OBJECT BEING DELETED IS {CACHE | LOCK | MESSAGE}**
                S64 OBJECT MAY ALREADY EXIST AT *address*
                ALLOCATION TOKEN IS *token*
                ACTUAL SIZE IN MB IS *size*
                ADDRESS IS address
                FUNCTION COMPLETED NORMALLY
                ERROR: RETURN CODE 12, REASON CODE *zOS-rc zOS-rsn-code*
                ERROR: ABEND CODE *system-code*, **REASON CODE** *reason-code*

Explanation: This series of messages describe an attempt to delete a shared 64-bit addressable
                memory object of the specified type. If ADAIOR reports return code 12, the z/OS
                return and reason codes are shown. If the request resulted in an abend, the system and
                reason codes are shown.

                Specifically, what is being deleted is the z/OS system affinity.. A z/OS S64 memory
                object will not actually be deleted until all local affinities are also deleted. A local
                affinity is created when a Parallel Services nucleus establishes a connection with the
                S64 object in its own address space. Local affinities are deleted when the nucleus ends.

Action: If the request fails, examine the z/OS IARV64 abend, return, and reason code
                description in IBM documentation. If the cause is not clear, notify your Software AG
                technical support representative.

PLX056   *dbid* **DATASPACE/S64 ACQUISITION FAILED**

Explanation: The Adabas Parallel Services nucleus was unable to connect to a storage object.
Further details are available in the assoassociatedicated ADACOM job's messages.

Action: If the cause is not clear after examining the messages in the associated ADACOM,
notify your Software AG technical support representative.

PLX057   *dbid* **DATASPACE/S64 DELETE FAILED**

Explanation: The Adabas Parallel Services nucleus was unable to delete a storage object. Further
details area available in the associated ADACOM job's messages.

Action: if the cause is not clear after examining the messages in the associated ADACOM,
notify your Software AG technical support representative.

PLX087   *dbid* **ATTEMPTING TO CREATE DATASPACES/S64**

Explanation: ADACOM is attempting to allocate cluster data spaces and shared 64-bit addressable
memory objects based on settings available in the first Adabas Parallel Services cluster
nucleus to start. This message also occurs as other cluster nuclei start, even thought the
cluster data spaces and S64 objects have already been allocated.

PLX097   **dbid DATASPACES AND S64 OBJECTS ACQUIRED**

Explanation: The cluster data spaces and shared 64-bit addressable memory objects have been
successfully allocated.

Action: Information only, no action required.