About ADARUN Parameters for Cluster Nuclei

Software AG recommends that you use the default settings (or your existing values) of the Adabas ADARUN parameters for each Adabas nucleus in an Adabas Parallel Services cluster, and then tune the values after analyzing the performance of the node or cluster. Read *Performance and Tuning* for information about expected differences.

Session statistics can be used to determine the best settings for each parameter. The statistics are printed automatically at the end of a session, but can also be displayed using nucleus or ADACOM operator commands during the session.

For your convenience, ADARUN parameters that are most significant to Adabas Parallel Services usage are described in *Useful ADARUN Parameters*.

This chapter covers the following topics:

- *Global ADARUN Parameters*

- *ADARUN Parameter Usage in Cluster Environments*

- *Specifying ADARUN Parameters for Cluster Nuclei*

- *Useful ADARUN Parameters for Adabas Parallel Services*

Global ADARUN Parameters

ADARUN parameters that must be the same for all nuclei in the cluster are called *global*.

Some global parameters are set at nucleus startup and cannot be changed during the ensuing session; other global parameters can be changed during a session:

- When you set a value for a global parameter that cannot be changed after the first nucleus in an Adabas cluster has started, intracluster messages are used to communicate the ADARUN parameter settings of the first nucleus to all subsequent cluster nuclei. Each subsequent nucleus receives this information during initialization and determines whether its global nonchangeable parameters are equal to those of the first nucleus.

  If they are not equal, the nucleus fails with a parameter error. The nonequal global changeable parameters are reset to the value retrieved from the intracluster messages and a corresponding message is printed.

- If you change the value of a global parameter that can be changed during a running session, the nucleus on which you make the change acquires a "parameter change lock", makes the changes in its local parameter area, and communicates the changes to the other cluster nuclei using intracluster messages.

All other nuclei in the cluster receive the intracluster messages containing the global parameters that have changed, change the parameters in their local parameter area, and send an "acknowledge" message.

ADARUN Parameter Usage in Cluster Environments

A cluster nucleus makes use of:

- *global* parameters, whose values are enforced by Adabas Parallel Services to be equal for all nuclei in a cluster. Some of these parameters can be modified (globally modifiable) during a session using an operator command or the Adabas Online System (NISNHQ, NONDES, and AOSLOG are only modifiable using AOS); others are fixed (globally fixed) and cannot be modified while the nuclei in the cluster are running.

- *local* parameters, which can be different for each nucleus. Some of these parameters are modifiable (locally modifiable) using an operator command or the Adabas Online System; others are fixed (locally fixed) and cannot be modified.

A few Adabas ADARUN parameters are not available to a cluster nuclei (No).

In the following table, the "N/A" column indicates which ADARUN parameters are not available to a cluster nucleus, the "LF" column indicates whether the parameter is a locally fixed parameter, the "LM" column indicates whether the parameter is a locally modifiable parameter, the "GF" column indicates whether the parameter is a globally fixed parameter, and the "GM" column indicates whether the parameter is a globally modifiable parameter.

Note:
The parameters for which links are provided have particular use in Adabas Parallel Services environments and are described in *Useful ADARUN Parameters for Adabas Parallel Services*. A description of every ADARUN parameter (including those not described in the Adabas Parallel Services documentation) can be found in the Adabas mainframe operations documentation.

Parameter	Usage	N/A	LF	LM	GF	GM
AOSLOG	Log to DDPRINT commands issued by AOS or ADADBS OPERCOM that modify the active nucleus			LM		
AREXCLUDE	Exclude file(s) from autorestart		LF			
ARMNAME	Name used to activate ARM		LF			
ASSOCACHE	Controller caching control for the Associator component		LF			
ASYTVS	Asynchronous buffer flush based on volser			LM		
CACHE	Load ADACSH (Adabas Caching Facility)		LF			
CACTIVATE	RABN range activation (Adabas Caching Facility)			LM		
CASSODSP	Associator RABNs cached for data space (Adabas Caching Facility)			LM		

Parameter	Usage	N/A	LF	LM	GF	GM
CASSOEXT	Associator RABNs cached for extended memory (Adabas Caching Facility)			LM		
CASSOHSP	Associator RABNs cached for hiperspace (Adabas Caching Facility)			LM		
CASSOV64	Associator RABNs cached for virtual 64 (Adabas Caching Facility)			LM		
CASSOMAXS	Associator cache space unit size (Adabas Caching Facility)			LM		
CBUFNO	Read buffer count for concurrent I/O (Adabas Caching Facility)			LM		
CCTIMEOUT	Cache space area inactivity time (Adabas Caching Facility)			LM		
CDATADSP	Data Storage RABNs cached for data space (Adabas Caching Facility)			LM		
CDATAEXT	Data Storage RABNs cached for extended memory (Adabas Caching Facility)			LM		
CDATAHSP	Data Storage RABNs cached for hiperspace (Adabas Caching Facility)			LM		
CDATAV64	Data Storage RABNs cached for virtual 64 (Adabas Caching Facility)			LM		
CDATAMAXS	Data Storage cache space unit size (Adabas Caching Facility)			LM		
CDEMAND	Lowest acceptable Adabas buffer efficiency level (Adabas Caching Facility)			LM		
CDISPSTAT	RABN range statistic display location (Adabas Caching Facility)			LM		
CDX*nn*	Collation descriptor user exit(s)		LF			
CEXCLUDE	Excluded command types (Adabas Caching Facility)			LM		
CFILE	File or file range to be cached (Adabas Caching Facility)			LM		
CLOGBMAX	Maximum size of a log buffer		LF			
CLOGDEV	Multiple command log device		LF			
CLOGLAYOUT	Define command log format				GF	
CLOGMAX	Maximum size of all logged buffers allowed for an Adabas command.		LF			
CLOGMRG	Automatic command log merge control in a cluster environment					GM
CLOGSIZE	Multiple command log size (blocks)		LF			

Parameter	Usage	N/A	LF	LM	GF	GM
CLUCACHENAME	Cluster cache structure name (Adabas Cluster Services only)				GF	
CLUCACHESIZE	Cluster cache area size (Adabas Parallel Services only)					GM
CLUCACHETYPE	Cluster cache area storage type (Adabas Parallel Services only)					GM
CLUCACHEUNCHANGED	Shared cache unchanged block control (Adabas Parallel Services only)		LF			
CLUGROUPNAME	Cluster group name (Adabas Cluster Services only)				GF	
CLULOCKNAME	Cluster lock structure name (Adabas Cluster Services only)				GF	
CLULOCKSIZE	Cluster lock area size (Adabas Parallel Services only)					GM
CLUSTER	Adabas cluster session control				GF	
CMADDR	Starting address of the GETMAIN common memory pool above the 16M line		LF			
CMAXCSPS	Storage area count for ADACSH (Adabas Caching Facility)			LM		
CMDQMODE	Command queue memory pool location		LF			
CMFIX	GETMAIN common memory pool fixed location indicator above the 16M line		LF			
CMLADDR	Starting address of the GETMAIN common memory pool below the 16M line		LF			
CMLFIX	GETMAIN common memory pool fixed location indicator below the 16M line		LF			
CMLSCOPE	Control for access to the GETMAIN common memory pool below the 16M line		LF			
CMLSIZE	Indicator for GETMAIN performance in common memory pool below the 16M line		LF			
CMSCOPE	Control for access to the GETMAIN common memory pool above the 16M line		LF			
CMSIZE	Indicator for GETMAIN performance in common memory pool above the 16M line		LF			
CRETRY	Cache space retry interval (Adabas Caching Facility)			LM		
CSTORAGE	RABN caching activation (Adabas Caching Facility)		LF			
CT	Command time limit (seconds)					GM

Parameter	Usage	N/A	LF	LM	GF	GM
CWORKSTORAGE	Cache space type (Adabas Caching Facility)			LM		
CWORK2FAC	Percentage of Work part 2 cached (Adabas Caching Facility)			LM		
CWOFK3FAC	Percentage of Work part 3 cached (Adabas Caching Facility)			LM		
CXFILE	Excluded files (Adabas Caching Facility)			LM		
DATACACHE	Controller caching control for the Data Storage component		LF			
DBID	Database ID (physical)				GF	
DEVICE	Device type of the first ASSO extent				GF	
DIRRATIO	Ratio of directory entries to data elements in a cluster cache structure/area					GM
DSF	Delta Save Facility control				GF	
DSFEX1	Delta Save Facility user exit		LF			
DTP[1]	Distributed transaction processing control				GF	
DUALCLD	Dual command log device		LF			
DUALCLS	Dual command log size (blocks)		LF			
DUALPLD	Dual protection log device		LF			
DUALPLS	Dual protection log size (blocks)		LF			
ELEMENTRATIO	Ratio of directory entries to data elements in a cluster cache structure/area					GM
EXCPVR	EXCP or EXCPVR indicator when APF-authorized		LF			
FASTPATH	Adabas Fastpath control		LF			
FMXIO	Limit parallel I/O operations by LFIOP flush processing			LM		
FORCE	Overwrite IDTE		LF			
GROUPS	Indicator for BS2000 interprocess communication limited to users with the same logon ID		LF			
HEX*nn*	Hyperdescriptor exit(s)		LF			
IDTNAME	Name for alternate ID table		LF			
IDTPSUP	IDT name suppression indicator		LF			
IGNDIB	Ignore DIB entry		LF			
IGNDTP	Ignore distributed transaction processing area (Work part 4)		LF			

Parameter	Usage	N/A	LF	LM	GF	GM
INFOBUFFERSIZE	Size of information buffer pool		LF			
INTNAS	Interval between nucleus statistic checkpoints (SYNS 60)					GM
LARGEPAGE	Large page use indicator		LF			
LBP	Length of buffer pool		LF			
LCP	Length of security pool		LF			
LDEUQP	Length of unique (UQ) descriptor pool		LF			
LDTP	Length of distributed transaction processing area (Work part 4)		LF			
LFIOP ^{2}	Length of asynchronous flush pool		LF			
LFP	Length of internal format buffer pool		LF			
LI	Length of ISN list table (TBI)		LF			
LNKGNAME	Link globals table name		LF			
LOCAL ^{3}	Nucleus (cluster) unknown to the network				GF	
LOGABDX	Log ABDs		LF			
LOGCB	Log control block			LM		
LOGCLEX	Log command log extension (CLEX)		LF			
LOGFB	Log format buffer			LM		
LOGGING	Logging of Adabas commands			LM		
LOGIB	Log ISN buffer			LM		
LOGIO	Log I/O activity			LM		
LOGMB	Log multifetch buffers		LF			
LOGRB	Log record buffer			LM		
LOGSB	Log search buffer			LM		
LOGSIZE	Maximum command log size		LF			
LOGUX	Log user exit B data			LM		
LOGVB	Log value buffer			LM		
LOGVOLIO	Extended I/O list log indicator			LM		
LOGWARN	PLOG/CLOG status check frequency			LM		
LP	Length of data protection area (Work part 1)		LF			
LQ	Length of sequential command table		LF			
LRDP	Length of the redo pool in cluster environments.		LF			

Parameter	Usage	N/A	LF	LM	GF	GM
LRPL	Size of Adabas or Event Replicator replication pools		LF			
LS	Length of sort area			LM		
LU	Length of intermediate user buffer					GM
LWKP2	Length of ISN list processing area (Work part 2)		LF			
LWP	Length of Adabas work pool		LF			
MODE [2]	Mode of operation				GF	
MSGBUF	Size of the message buffer		LF			
MSGCONSL	Case of messages on message console		LF			
MSGDRUCK	Case of messages in DD/DRUCK data set		LF			
MSGPRINT	Case of messages sent to DD/PRINT data set		LF			
MXCANCEL	Timeout threshold for a cancel request between cluster nuclei(Adabas Cluster Services and Adabas Parallel Services)			LM		
MXCANCELWARN	Timeout threshold for a cancel request warning between cluster nuclei (Adabas Cluster Services and Adabas Parallel Services)			LM		
MXMSG	Maximum message reply time between cluster nuclei (Adabas Cluster Services and Adabas Parallel Services)			LM		
MXMSGWARN	Timeout threshold for a message reply warning between cluster nuclei (Adabas Cluster Services and Adabas Parallel Services)			LM		
MXSTATUS	XCF status monitoring heartbeat interval (Adabas Cluster Services)			LM		
MXTNA	Maximum inactivity time limit override for a user					GM
MXTSX	Maximum Sx execution time limit override for a user					GM
MXTT	Maximum transaction time limit override for a user					GM
MXWTOR	Self-termination query operator response interval (Adabas Cluster Services and Adabas Parallel Services)			LM		
NAB	Number of attached buffers		LF			

Parameter	Usage	N/A	LF	LM	GF	GM
NC	Number of command queue elements		LF			
NCLOG	Number of command logs		LF			
NH	Number of hold queue elements		LF			
NISNHQ	Number of ISNs in hold queue for user					GM
NONDES	Non-descriptor searches					GM
NPLOG	Number of protection logs		LF			
NPLOGBUFFERS	Number of PLOG protection I/O buffers		LF			
NQCID	Number of active command IDs per user					GM
NSISN	Number of ISNs per ISN table element			LM		
NT	Number of threads		LF			
NU	Number of user queue elements		LF			
NUCID	Cluster nucleus ID		LF			
NWORK1BUFFERS	Number of Work part 1 protection I/O buffers		LF			
OPENRQ	Open command required				GF	
PAMREQS	Maximum number of BS2000 PAM blocks that can be transferred in a single PAM macro request		LF			
PGFIX	I/O control block page request indicator		LF			
PLOGDEV	Multiple protection log device		LF			
PLOGRQ	Protection log required				GF	
PLOGSIZE	Multiple protection log size (blocks)		LF			
PREFETCH[4]	Prefetch/multifetch feature control (see note below)	N/A				
PREFICMD[4]	Include command from prefetch/multifetch (see note below)	N/A				
PREFIFIL[4]	Include file from prefetch/multifetch (see note below)	N/A				
PREFNREC[4]	Multifetch record count (see note below)	N/A				
PREFSBL[4]	Prefetch single buffer length (see note below)	N/A				
PREFSTDD[4]	Job statement label for location for multifetch statistics	N/A				
PREFTBL[4]	Prefetch total buffer length (see note below)	N/A				
PREFXCMD[4]	Exclude command from prefetch/multifetch (see note below)	N/A				

Parameter	Usage	N/A	LF	LM	GF	GM
PREFXFIL [4]	Exclude file from prefetch/multifetch (see note below)	N/A				
PROGRAM	The program to be run		LF			
QBLKSIZE	Sequential data set block size (optimized by ADAIOR)		LF			
READONLY [2]	Read-only session control			LM		
REPLICATION	Replication indicator		LF			
REVFILTER	Adabas Review record filtering indicator		LF			
REVIEW	Adabas Review control			LM		
REVLOGBMAX	Maximum number of bytes of a logged buffer for Adabas Review		LF			
REVLOGMAX	Maximum size of all logged buffers for an Adabas Review command		LF			
RPLCONNECTCOUNT	Number of connection attempts for replication		LF			
RPLCONNECTINTERVAL	Connection attempt interval for replication		LF			
RPLPARMS	Location of replication definitions		LF			
RPLSORT	Replication transaction data sorting indicator		LF			
RPLWARNINGINCREMENT	Replication pool usage warning message interval		LF			
RPLWARNINTERVAL	Replication pool usage warning message suppression interval		LF			
RPLWARNMESSAGELIMIT	Replication pool usage warning message limit before suppression		LF			
RPWARNPERCENT	Replication pool usage threshold		LF			
SMF	Adabas SMF recording control		LF			
SMF89	Type 89 SMF record control		LF			
SMFDETAIL	SMF record detail section control			LM		
SMFINTERVAL	SMF interval record control			LM		
SMFRECNO	SMF user-defined record number control			LM		
SMFSUBSYS	IBM or user-defined SMF subsystem control			LM		
SMGT	Error handling (PIN) facility control		LF			
SORTCACHE	Controller caching control for the Adabas sort area component		LF			

Parameter	Usage	N/A	LF	LM	GF	GM
SPT	Adabas triggers and stored procedures control				GF	
SRLOG	Spanned record logging control		LF			
SUBMPSZ	Common memory pool size		LF			
SVC	SVC number		LF			
SWITCHNR	BS2000 job switch number		LF			
TAPEREL	End-of-file processing for tapes or cartridges		LF			
TARGETID	Unique Entire Net-Work target ID		LF			
TASKCTGY	BS2000 Adabas task category		LF			
TCPIP	TCP/IP access control			LM		
TCPURL	TCP/IP universal resource locator (URL)			LM		
TEMPCACHE	Controller caching for the Adabas temp area component		LF			
TFLUSH[2]	Synchronous buffer flush time			LM		
TLSCMD	Time limit for S1, S2, and S4 complex searches (seconds)					GM
TMDRQ[3]	Number of entries in Adabas Transaction Manager internal request queue		LF			
TMETDATA[3]	Databases storing Adabas Transaction Manager ET data		LF			
TMGTT[3]	Time limit in which an Adabas Transaction Manager global transaction can be opened without being prepared		LF			
TMLOG[3]	Logging option for Adabas Transaction Manager			LM		
TMMSGSEV[3]	Severity threshold for suppression of Adabas Transaction manager warning messages		LF			
TMRESTART[3]	Adabas Transaction Manager problematic transaction restart handling		LF			
TMSYNCMGR[3]	Indicator for Adabas Transaction Manager interaction with external transaction coordinator		LF			
TMTCIDPREF[3]	Adabas Transaction Manager prefix for dynamically allocated client IDs		LF			
TNAA	Non-activity time limit (access-only users)					GM
TNAE	Non-activity time limit (ET logic users)					GM

Parameter	Usage	N/A	LF	LM	GF	GM
TNAX	Non-activity time limit (exclusive update users)					GM
TT	Transaction time limit					GM
UEX*nn*	User exits: 1, 3, 4, 5, 8		LF			
	User exits: 2, 12				GF	
	User exits: 6, 9 (for utilities)	N/A				
UEXSMF	SMF user exit module name		LF			
UTIONLY	Utilities-only session				GF	
V64BIT	Virtual storage above the 2G bar usage indicator		LF			
VISTA	Adabas Vista control				GF	
WORKCACHE	Controller caching for the Adabas work area component		LF			

Notes:

1. Adabas Cluster Services and Adabas Parallel Services 8.2 do not support DTP=TM, but it does support DTP=RM.
2. Adabas Cluster Services and Adabas Parallel Services 8.2 do not support LFIOP=0, MODE=SINGLE, READONLY=YES, or TFLUSH.
3. Adabas Cluster Services and Adabas Parallel Services 8.2 do not support the LOCAL=YES and all TM*parameters
4. The PREF*xxx* parameters are used with application programs (PROGRAM=USER) making Adabas calls. They have no effect when specified for an Adabas nucleus.

Specifying ADARUN Parameters for Cluster Nuclei

When specifying ADARUN session parameters for Adabas Parallel Services cluster nuclei:

- ensure that the correct program to be executed is specified (PROG=ADANUC); and

- determine which setting is applicable for the SVC parameter for the session.

The CLOGMRG, CLUSTER, CLUCACHESIZE, CLUCACHETYPE, CLUCACHEUNCHANGED, CLULOCKSIZE, DIRRATIO / ELEMENTRATIO, LRDP, and NUCID parameters are used by the Adabas Parallel Services cluster nucleus and its environment.

If protection logs or command logs are used in a cluster environment, they must be dual or multiple logs and all nuclei must use them. All cluster nuclei must have the same PLOGRQ setting.

The remaining Adabas cluster nucleus parameters are the same as those of a standard Adabas nucleus. For more information, read the Adabas operations documentation.