ATM Job Parameters

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Job Parameter Usage

Correct operation of the Adabas Transaction Manager and the Adabas Transaction Manager proxy depends on the settings of job parameters. These are defined and maintained using Online Services. Their settings determine the logic to be used by the proxy during transaction processing. These settings should be determined according to production system requirements, and should be tested before being used in production.

At execution time, the Adabas Transaction Manager proxy checks the Adabas System Coordinator system file for job parameters that match the name of the currently executing job. If no exact match is found, a wild-card match is attempted. Failing this, the parameters for job name DEFAULT will be returned. If there is no definition under the name DEFAULT, hard-coded default values in the Adabas Transaction Manager kernel will be used, and console messages will be issued to indicate their values.

It is therefore important to set appropriate values for each job that could load and execute the Adabas Transaction Manager proxy.

Note:
The `LGRECNO` parameter setting requires particular attention. This parameter setting determines the amount of memory, per user, that is allocated for logging diagnostic information. In a TP system that services many users, an `LGRECNO` parameter setting of 100, for example, could quickly consume a large amount of memory. In such systems, choose a small value for the `LGRECNO` setting. See the section User Sessions for more information.

Job Parameter Descriptions

This section describes each ATM job parameter:

- ATM : Activate ATM Processing

- CORGROUP: Adabas System Coordinator Group Name

- GENOP : Generate OP Commands

- HSTSYNC : Use Host System Transaction Manager

- LCLSYNC : Use Client-Side Transaction Manager

- LGRECNO : Number of Log Record Entries

- MAXDB : Maximum Number of Current Databases

- SERIAL : Emergency Serial ET Commands

- SVC : SVC Number

- SYNCMODE : Syncpoint Processing Mode

- SYNCONBT : Generate External Syncpoint on BT Command

- SYNCONCL : Generate External Syncpoint on CL Command

- SYNCONET : Generate External Syncpoint on ET Command

- TRANMODE : Transaction Model

- TRNCTL : Transaction Control

- XH : Extended Hold Feature

ATM : Activate ATM Processing

Parameter	Parameter Type	Use	Possible Values	Default
ATM	Job	Indicates whether or not ATM is to provide transaction coordination for this job.	ON | OFF	ON

Possible values:

Value	Description
ON	Users will perform distributed transaction processing, and ATM is to provide transaction coordination.
OFF	ATM is not to be used for coordinating transactions for users in this job.

CORGROUP: Adabas System Coordinator Group Name

Parameter	Parameter Type	Use	Possible Values	Default
CORGROUP	Job	Identifies the System Coordinator group in which the job or TP system will execute.	Any valid System Coordinator group name	A valid group name must be provided

GENOP : Generate OP Commands

Parameter	Parameter Type	Use	Possible Values	Default
GENOP	Job	Indicates whether or not the ATM proxy is to generate an OP command when a session uses a database without having issued an OP.	NO | YES	NO

Possible values:

Value	Description
NO	The ATM proxy will not generate OP commands on behalf of users.
YES	Whenever a user session uses a new database for which no OP command has been issued, the ATM proxy will issue an OP command on behalf of the user.

HSTSYNC : Use Host System Transaction Manager

Parameter	Parameter Type	Use	Possible Values	Default
HSTSYNC	Job	Indicates whether or not transactions in this client environment are to be controlled by the host system native transaction manager.	YES | NO	NO

Possible values:

Value	Description
YES	Transactions in this client environment are to be controlled by the host system native transaction manager.
NO	Transactions in this client environment are not to be controlled by the host system native transaction manager.

Note:
This parameter is currently supported only for single-user, single-TCB batch jobs or TSO sessions, and for IMS/TM systems, running under z/OS or OS/390.

Note:
The parameters HSTSYNC=YES and LCLSYNC=YES are mutually exclusive.

LCLSYNC : Use Client-Side Transaction Manager

Parameter	Parameter Type	Use	Possible Values	Default
LCLSYNC	Job	Indicates whether or not transactions in this client environment are to be controlled by the environment native syncpoint manager.	YES | NO	NO

Possible values:

Value	Description
YES	Transactions in this client environment are to be controlled by the environment native syncpoint manager.
NO	Transactions in this client environment are not to be controlled by the environment native syncpoint manager.

Note:
CICS under z/OS, OS/390 or VSE/ESA is the only client environment for which this parameter is currently supported.

Note:
The parameters LCLSYNC=YES and HSTSYNC=YES are mutually exclusive. However, LCLSYNC=NO does not preclude the use of RRMS as an external transaction coordinator for other jobs, since RRMS interfaces directly with the ATM daemon and not with the ATM proxy.

CICS/RMI Considerations

When defining a parameter module for a CICS/RMI environment:

- LCLSYNC=NO means that ATM coordinates transactions in the normal way, but not under the control of the CICS Syncpoint Manager. That is, even when the RMI is enabled, no transaction coordination occurs between Adabas and other RMI-enabled resource managers.

- LCLSYNC=YES activates the RMI so that the CICS Syncpoint Manager coordinates transactions across all resource managers.

LGRECNO : Number of Log Record Entries

Parameter	Parameter Type	Use	Possible Values	Default
LGRECNO	Job	Indicates whether or not internal logging is to be performed, and if so, how much space, per user, will be used for this purpose.	0-4096	0

The ATM proxy is capable of logging internal events for diagnostic purposes. The log buffer area is reused cyclically.

If necessary, Software AG support can provide assistance regarding analysis of the contents of a user's proxy log buffer.

Possible values:

Value	Description
0	The proxy will not acquire log buffer areas and will not log internal events.
1-4096	The number of entries to be reserved for internal event logging. Each entry requires 96 bytes.

Note:
Do not specify a high value for a TP system that services a large number of users since this may result in memory becoming exhausted.

The `LGRECNO` parameter has no effect on the logging that takes place in the ATM daemon address space. Logging by the ATM daemon is controlled by the ADARUN parameter `TMLOG`.

MAXDB : Maximum Number of Current Databases

Parameter	Parameter Type	Use	Possible Values	Default
MAXDB	Job	Sets the maximum number of databases with which a user can have an active session at one time.	number	4

The `MAXDB` setting includes all databases without regard to the DTP parameter setting.

SERIAL : Emergency Serial ET Commands

Parameter	Parameter Type	Use	Possible Values	Default
SERIAL	Job	Indicates whether or not the ATM proxy is to switch a user from DTP to serial `ET`/`BT` mode if the local ATM daemon becomes unavailable.	YES | NO | FORCE	FORCE

Possible values:

Value	Description
YES	The ATM proxy is to switch a user from DTP to serial `ET`/`BT` mode if the local ATM daemon becomes unavailable. A response code will be returned to indicate that the local ATM daemon is unavailable.
NO	The ATM proxy is not to switch a user from DTP to serial `ET`/`BT` mode if the local ATM daemon becomes unavailable.
FORCE	A user is to be switched to serial mode if necessary. No notification is provided.

For more information regarding DTP and Serial mode processing, refer to the section Processing Modes.

Note:
If ATM automatically switches a user to serial `ET`/`BT` mode when the user has a transaction open, the user might receive unexpected response codes, even if the job parameter value for serial processing is set to FORCE. For example, the transaction might be backed out, and response 9 returned to the user. Other

response codes, such as response 240 subcode 88, might be given, depending on how far the transaction had progressed, and there is a possibility that the transaction will remain unresolved until the ATM daemon is once again able to carry out its responsibilities. Even so, the setting of value FORCE will ensure minimum disruption when a switch to serial ET/BT mode is necessary, and will probably allow most users to continue processing without noticing the switch.

SVC : SVC Number

Parameter	Parameter Type	Use	Possible Values	Default
SVC	Job	Sets the number of the Adabas SVC used by the ATM daemon that is local to users executing under these job parameters.	number	249

SYNCMODE : Syncpoint Processing Mode

The SYNCMODE parameter has been replaced by the TRANMODE parameter.

SYNCONBT : Generate External Syncpoint on BT Command

Parameter	Parameter Type	Use	Possible Values	Default
SYNCONBT	Job	Indicates whether or not a BT command should cause ATM to request a rollback syncpoint from the external transaction coordinator.	YES | NO	YES

Possible values:

Value	Description
YES	Any BT command will cause ATM to request a rollback syncpoint from the external transaction coordinator that controls the current transaction. If there is no external transaction coordinator in use, this parameter setting is ignored.
NO	ATM will not request a rollback syncpoint from any external coordinator when it processes a BT command. Furthermore, if ATM itself decides that a backout must be performed, it will not request a rollback from any external coordinator.

Regardless of the SYNCONBT parameter setting, a BT command causes all Adabas changes to be backed out.

SYNCONCL : Generate External Syncpoint on CL Command

Parameter	Parameter Type	Use	Possible Values	Default
SYNCONCL	Job	Indicates whether or not a CL command should cause ATM to request a commit syncpoint from the external transaction coordinator.	YES | NO	YES

Possible values:

Value	Description
YES	Any CL command will cause ATM to request a commit syncpoint from the external transaction coordinator that controls the current transaction. If there is no external transaction coordinator in use, this parameter setting is ignored.
NO	ATM will not request a commit syncpoint from any external coordinator when it processes a CL command.

For IMS/TM systems for which the parameter setting HSTSYNC=YES is specified, the parameter setting SYNCONCL=YES will be ignored, and the parameter setting SYNCONCL=NO will take effect.

SYNCONET : Generate External Syncpoint on ET Command

Parameter	Parameter Type	Use	Possible Values	Default
SYNCONET	Job	Indicates whether or not an ET command should cause ATM to request a commit syncpoint from the external transaction coordinator.	YES | NO	YES

Possible values:

Value	Description
YES	Any ET command will cause ATM to request a commit syncpoint from the external transaction coordinator that controls the current transaction. If there is no external transaction coordinator in use, this parameter setting is ignored.
NO	ATM will not request a commit syncpoint from any external coordinator when it processes an ET command.

Regardless of the SYNCONET parameter setting, an ET command causes any pending Adabas changes to be committed.

For IMS/TM systems for which the parameter setting HSTSYNC=YES is specified, the parameter setting SYNCONET=YES will be ignored, and the parameter setting SYNCONET=NO will take effect.

TRANMODE : Transaction Model

Parameter	Parameter Type	Use	Possible Values	Default
TRANMODE	Job	Transaction model	MESSAGE | DYNAMIC	MESSAGE

Possible values:

Value	Description
MESSAGE	The message-based transaction model will be used. According to this model, a syncpoint always takes place when processing of a message is complete (normally, this means that screen I/O causes a syncpoint). Syncpoints caused by ET,BT,OP and CL commands are handled in the normal way. Unsolicited syncpoints cause ATM to commit (or back out) changes made to Adabas databases, and release held ISNs.
DYNAMIC	The dynamic transaction model will be used. According to this model, transactions are delimited by Adabas commands. Unsolicited commit syncpoints are ignored by ATM; ET and CL commands cause ATM to commit pending Adabas changes. Unsolicited rollback syncpoints cause ATM to back out changes from Adabas databases and release held ISNs.

Note:
The setting TRANMODE=MESSAGE is equivalent to the setting SYNCMODE=FULL with ATM version 1.2.

Note:
The setting TRANMODE=DYNAMIC is equivalent to the setting SYNCMODE=ADABAS with ATM version 1.2.

Note:
There is no TRANMODE setting equivalent to the setting SYNCMODE=ALL with ATM version 1.2. The reason is that there is no distinction between the settings SYNCMODE=ALL and SYNCMODE=FULL with ATM version 7.4, since ATM will always cause held ISNs to be released when a syncpoint takes place, unless directed to do otherwise by command options and the XH parameter.

For more information, see also the section Syncpoint Processing Options.

TRNCTL : Transaction Control

Parameter	Parameter Type	Use	Possible Values	Default
TRNCTL	Job	Determines the action to be taken whenever an unsolicited syncpoint request is received.	GLOBAL | LOCAL	LOCAL

The TRNCTL setting determines what action is to be taken whenever an unsolicited syncpoint request is received, that is, whether a decision to commit or back out a global transaction is to be made by the application program itself using its local ATM proxy, or by a software component other than ATM or ATM proxy.

Unsolicited syncpoint requests can occur if:

- The parameter setting `LCLSYNC=YES` is specified and ATM could receive a request to commit or back out a global transaction other than through an `ET` or `BT` command; or

- the ATM daemon executes with the parameter setting `TMSYNCMGR=RRMS`; or

- an application could cause a participating trigger to execute, causing an `ET` command to be issued, all without the knowledge of the user's local ATM proxy.

Possible values for the `TRNCTL` setting are:

Value	Description
LOCAL:	Decision to commit or back out a global transaction is to be made by the application program itself using its local ATM proxy. If unsolicited syncpoints are not valid in your environment, specify `TRNCTL=LOCAL` so that any unsolicited syncpoint request is reported as an error. Specifying `TRNCTL=LOCAL` does not prevent unsolicited syncpoints from being processed; rather, it results in the user's next Adabas command being rejected with a response code 243 indicating that the syncpoint has occurred.
GLOBAL	Decision to commit or back out a global transaction can be made by a software component other than ATM or ATM proxy. `TRNCTL=GLOBAL` is required if unsolicited syncpoint requests are acceptable. **Note:** Running with `TRNCTL=GLOBAL` in any environment other than CICS/RMI can cause the ATM proxy to make additional calls to the ATM daemon to check transaction status. It is recommended to use `TRNCTL=LOCAL` wherever possible to eliminate these extra calls.

CICS/RMI Considerations

When running with the parameter setting `LCLSYNC=YES` in a CICS/RMI environment, a decision to commit or back out a global transaction can occur in several ways:

- the application program issues `ET` or `BT`;

- the application program issues `EXEC CICS SYNCPOINT` (or `SYNCPOINT ROLLBACK`);

- the CICS task terminates, normally or abnormally, when updates are pending.

In the first case, the ATM proxy is aware of the syncpoint decision.

In all other cases, from the proxy's point of view, the syncpoint is unsolicited. If the user is at global transaction status, an unsolicited syncpoint has no effect on Adabas databases, other than to cause held ISNs to be released. On the other hand, if an unsolicited syncpoint occurs when Adabas changes are pending, ATM is instructed to commit the changes; in this case also, held ISNs are released.

If such unsolicited syncpoints are acceptable in your CICS system, specify `TRNCTL=GLOBAL`. Otherwise, specify `TRNCTL=LOCAL` to treat unsolicited syncpoint requests as errors.

Most CICS applications run in pseudo-conversational mode; that is, the current CICS task terminates when a screen I/O occurs. If ATM CICS/RMI is installed and active, and the job parameter `TRANMODE=MESSAGE` is in effect, an application that runs in pseudo-conversational mode cannot keep an Adabas transaction open across screen I/Os because an implied (unsolicited) commit syncpoint occurs at every screen I/O. In this mode, it is not possible for a transaction to remain open across screen I/Os. See the `TRANMODE` parameter for details of a different way of responding to unsolicited syncpoints.

If `TRNCTL=LOCAL` is specified and the syncpoint resulted in Adabas changes being committed, the next Adabas call following a screen I/O returns response code 243.

Various Natural features including some SYSSEC functions maintain open Adabas transactions across screen I/Os. In a CICS/RMI environment operating with the job parameter `TRANMODE=MESSAGE`, such functions are likely to

- fail with a NAT3243 error when `TRNCTL=LOCAL`; or

- be unable to back out in case of errors when `TRNCTL=GLOBAL`; or

- fail with response code 144.

You should therefore execute Natural system functions in one of the following ways:

- execute Natural system functions in a system other than CICS, or in a CICS system using a link module in which the RMI is not active; or

- execute Natural system functions in a CICS system that operates with the job parameter `TRANMODE=DYNAMIC`; or

- execute Natural system functions in conversational mode when using the CICS Resource Manager Interface.

RRMS Considerations

When ATM's RRMS interface is active, a decision to commit or back out a global transaction can occur in several ways:

- the application program issues `ET` or `BT`;

- the application program issues `SRRCMIT` or `SRRBACK`;

- the application or some other agent issues `ATRCMIT` or `ATRBACK`.

In the first case, the TM proxy is aware of the syncpoint decision. In other cases, from ATM's point of view, the syncpoint is unsolicited. If the user is at global transaction status, an unsolicited syncpoint has no effect on Adabas databases, other than to cause held ISNs to be released. On the other hand, if an unsolicited syncpoint occurs when Adabas changes are pending, ATM is instructed to commit the changes; in this case, also, held ISNs will be released.

If unsolicited syncpoints are acceptable in your system, specify `TRNCTL=GLOBAL`. Otherwise, specify `TRNCTL=LOCAL` to treat unsolicited syncpoint requests as errors. If `TRNCTL=LOCAL` and an unsolicited syncpoint causes a user's Adabas changes to be committed, the next Adabas call issued by the user returns response code 243.

If ATM runs with `TMSYNCMGR=RRMS`, and `HSTSYNC=YES` is specified for IMS/TM systems whose transactions are coordinated by RRMS, `TRNCTL=GLOBAL` must also be specified for these IMS systems.

XH : Extended Hold Feature

Parameter	Parameter Type	Use	Possible Values	Default
XH	Job	Indicates whether P and M options on `ET` and `BT` commands will be honored.	YES | NO	NO

Possible values:

Value	Description
YES	P and M options on `ET` and `BT` commands will be honored. For any application environment in which prefetch or multifetch command options can be used, the setting YES should be used.
NO	P and M options on `ET` and `BT` commands will not be honored.

If Adabas Vista is present in an application job or TP environment, the value YES will take effect, regardless of the `XH` parameter setting.

For more information on extended hold processing, see Extended Hold Processing in section Termination Commands: ET and BT.