

# Installing Adabas Transaction Manager for BS2000

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## The Installation Tape

Review the *Report of Tape Creation* that accompanies the release package before restoring the release data to disk. Information in this report supersedes the information in this documentation.

The installation tape contains the following datasets in the sequence indicated in the report:

Dataset	Contents
ATM $vrs$ .JOBS	ATM installation jobs, utility jobs
ATM $vrs$ .MOD	ATM load modules
ATM $vrs$ .SYS5	ADALOD input for the ATM PRR file
ATM $vrs$ .SYS6	ADALOD input for the ATM STJ file
ATM $vrs$ .SYS7	ADALOD input for the user proxy log (UPL) file
ATM $vrs$ .SYS8	ADALOD input for the ET data file
ATM $vrs$ .INPL	SYSATM objects
ATM $vrs$ .ERRN	SYSATM error messages

where  $vrs$  is the version, revision, and system maintenance level of the product. Use the comments in the jobs when modifying them to conform to site requirements.

## Installation Checklist

The Adabas System Coordinator must be installed prior to the installation of Adabas Transaction Manager. See the Adabas System Coordinator documentation for detailed information.

Once the required System Coordinator components have been installed, you can proceed to install Adabas Transaction Manager.

After copying the tape contents to disk, the following checklist identifies the steps necessary to complete the installation:

Step	Description	Job Name
	Before proceeding with the installation, ensure that all necessary preparation has been completed as described in section Before You Install.	
1	Create the transaction manager's database.	ATMI030
2	Load the transaction manager files to the ATM transaction manager's database.	ATMI050
3	INPL the Online Services application.	ATMI061
4	Define the default client runtime controls for use by the transaction manager client proxy.	
5	Prepare the ATM transaction manager job.	ATMI200
6	Enable databases for two-phase commit.	
7	Prepare the Adabas System Coordinator daemons to support ATM.	
8	Make Adabas Transaction Manager components available as required.	

## Copying the Tape Contents to a BS2000/OSD Disk

▶ to copy the tape contents to a BS2000/OSD disk:

1. Copy the library SRVnnn.LIB from tape to disk.

This action is not necessary if you have already copied the library SRVnnn.LIB from another Software AG tape. For more information, refer to the element #READ-ME in this library.

The library SRVnnn.LIB is stored on the tape as the sequential file SRVnnn.LIBS containing LMS commands. The current version nnn can be obtained from the Report of Tape Creation. To convert this sequential file into an LMS-library, execute the following commands:

```

/IMPORT-FILE SUPPORT=*TAPE(FILE-NAME=SRVnnn.LIBS, -
/ VOLUME=<volser>, DEV-TYPE=<tape-device>)
/ADD-FILE-LINK LINK-NAME=EDTSAM, FILE-NAME=SRVnnn.LIBS, -
/ SUPPORT=*TAPE(FILE-SEQ=9), ACC-METH=*BY-CAT, -
/ BUF-LEN=*BY-CAT, REC-FORM=*BY-CAT, REC-SIZE=*BY-CAT
/START-EDT
@READ '/'
@SYSTEM 'REMOVE-FILE-LINK EDTSAM'
@SYSTEM 'EXPORT-FILE FILE-NAME=SRVnnn.LIBS'
@WRITE 'SRVnnn.LIBS'
@HALT
/ASS-SYSDTA SRVnnn.LIBS
/MOD-JOB-SW ON=1
/START-PROG $LMS
/MOD-JOB-SW OFF=1
/ASS-SYSDTA *PRIMARY
<tape-device> = device-type of the tape, e.g. TAPE-C4
<volser> = VOLSER of tape (see Report of Tape Creation)

```

- Copy the procedure COPY.PROC from tape to disk

Call the procedure P.COPYTAPE in the library SRVnnn.LIB to copy the procedure COPY.PROC to disk:

```
/CALL-PROCEDURE (SRVnnn.LIB,P.COPYTAPE), -
/ (VSNT=<volser>, DEVT=<tape-device>)
```

If you use a TAPE-C4 device, you can omit the parameter DEVT.

- Copy all product files from tape to disk

Enter the procedure COPY.PROC to copy all Software AG product files from tape to disk:

```
/ENTER-PROCEDURE COPY.PROC, DEVT=<tape-device>
```

If you use a TAPE-C4 device, you can omit the parameter DEVT. The result of this procedure is written to the file L.REPORT.SRV.

## Installation Procedure

Following is the general Adabas Transaction Manager installation procedure. The actual installation depends on your particular requirements and the specific contents of the release package provided by Software AG for your site. Information in the release package is intended for your system. If that information differs from the information in this section, use the release package information or contact Software AG technical support for assistance.

### Step 1: Create the Transaction Manager Database (Job ATMI030)

The transaction manager database holds recovery information and, depending on the setting of the TMETDATA parameter, ET data, but no other operational data. The remaining files are for occasional use for special purposes – to store diagnostic log information obtained by the transaction manager client proxy, and to hold details of transactions that were forcibly terminated. The size of this database depends mainly on the number of transactions that might be in progress at the same time, and the total amount of ET data, if any, that the ATM manager will need to store.

#### to create the database:

- Use sample job ATMI030, modified to meet your requirements, to establish the database.

Initially, define a database with the following component sizes:

```
DATA: 250 cylinders
ASSO: 50 cylinders
WORK: 50 cylinders
TEMP: 20 cylinders
SORT: 20 cylinders
```

Enough Data Storage space in the recovery file must be allocated to accommodate the maximum number of concurrently active transactions. The following can be used as a guide for calculating the required Data Storage space:

$x$  times  $y$  is the required number of Data Storage blocks,

where  $x$  is the maximum number of concurrent transactions/branches at the local ATM transaction manager, and  $y$  is the average number of compressed recovery records (PRRs) per Data Storage block. Assume that a compressed PRR requires about 2300 bytes if the transaction has 2000 bytes (compressed) of ET data, and 300 bytes if there is no ET data. It is recommended to allow a safety margin of about 50 percent extra space.

Standard block sizes are adequate for most sites. However, if transactions which perform changes to many databases are to be used, it may be necessary to increase the Data Storage block size to accommodate large recovery records.

No ET data will be stored in this database's checkpoint file. The following parameters should be adequate for the checkpoint file.

```
MAXISN=10,000
DSSIZE=100B
NISIZE=20B
UISIZE=8B
```

Use the normal reporting utilities to determine whether space shortages are likely to occur.

## Step 2: Load the Transaction Manager Files into the Transaction Manager's Database (Job ATMI050)

The recovery record file, suspect transaction file, proxy log file and ET data file have numbers 5, 6, 7 and 8, respectively. These file numbers are fixed. Since no application files should be loaded into this database, there should be no conflict.

If ET data is to be stored in the transaction manager's database (TMETDATA=ATM), define file 8 with MAXISN large enough to allow an ISN for each ETID that will ever be used in this Adabas Transaction Manager's local system. A decompressed ET data record occupies about 2 kilobytes. If you choose to store ET data in target databases (TMETDATA=TARGETS), file 8 will not be used. For more information, see TMETDATA parameter.

### to load the transaction manager files into the transaction manager's database:

- Use job ATMI050 to define the recovery record, suspect transaction, proxy log and ET data files in the transaction manager's database.

The suggested sizes are adequate for the purposes of testing. You can use the normal reporting utilities to check whether your system needs larger files.

## Step 3: Install the Online Services Application SYSATM (Job ATMI061)

The Adabas Transaction Manager Online Services application is delivered on the installation tape as a NATUNLD dataset created under Natural. The application programs are stored in libraries SYSATM and SYSMT $vrs$  where  $vrs$  is the version, revision, and system maintenance level of the product.

### to install the Online Services application SYSATM:

1. Use a Natural utility to install the Online Services application and ERRLODUS to install its messages.
2. If Natural Security is installed, define the libraries SYSATM and SYSMT $vrs$  (where  $vrs$  is the version you are installing, for example 812) and protect as required. You may define MENU as the startup transaction for SYSATM. DO NOT define a startup transaction for SYSMT $vrs$ .

## Step 4: Define the Default Client Runtime Controls for the Transaction Manager Client Proxy

The default client runtime controls for the Transaction Manager client proxy must be defined. For further information, see Online Services, Client Runtime Controls. See also the section Adabas Transaction Manager Components.

### Note:

If you are upgrading from a previous version of ATM, you should first have installed Version 8.1 of Adabas System Coordinator. As part of this process, you should have defined a new, empty system file, to contain system data such as client runtime controls. When using SYSCOR for the first time with this new file, you would have been given the option of converting data, including ATM's client runtime controls, from a previous version of system file. Refer to the *Adabas System Coordinator* documentation for details. If you did not carry out this conversion, and you wish to use your existing client runtime controls for ATM, log on to SYSATM now, and you will be guided through the process of converting them.

### ▶ to define the default client runtime controls for the transaction manager client proxy:

1. Start a Natural session and log on to the newly installed SYSATM application. Invoke the Menu function. If you have not defined LFILE 152 for your Natural session, a message will prompt you to define it now. Select the function Systems Settings, then option LFILE 152 Maintenance. Enter the Database ID and file number of the system file that you created when you installed the Adabas System Coordinator. Enter values for the remaining input fields, and confirm your definition. Now return to the main menu and select the Client Runtime Controls option. For a detailed description of the following step, refer to Online Services, Client Runtime Controls.
2. On the Client Runtime Controls screen, press PF10 to add a new default definition. Select an appropriate job type and press Enter. On the next screen, enter \*DEFAULT as the job name, and press PF5. Now you can specify the default ATM runtime control settings for the selected job type. Make sure that you set Adabas Transaction Manager to ON. You must also set the name of the Adabas System Coordinator group in which your client jobs and TP systems will execute. The provided default values for the remaining controls should be satisfactory for the purpose of completing and verifying the installation. You can review and change them as required once you have completed and verified the installation.

## Step 5: Prepare the ATM Transaction Manager Job

Because the ATM transaction manager executes as a special kind of Adabas nucleus, its JCL is similar to that of a normal Adabas nucleus.

### ▶ to prepare the ATM transaction manager job:

1. Make any necessary site-specific changes to ATMI200 so that it can be used as a procedure for a started task.
2. Ensure that any ADALNK module that can be loaded by the ATM job does not have the Adabas System Coordinator stub linked into it.
3. Specify ADARUN DTP=TM.
4. Specify ADARUN TMLOG=NEVER for the purpose of verifying the installation. Once the verification process has been completed, reconsider this parameter setting.
5. Specify ADARUN NONDES=YES. This is the default setting.

Set other ADARUN parameters as you would for a normal database. For initial testing, the default limits and pool and buffer sizes should be sufficient.

See the section Parameters for a description of the ADARUN parameters that affect Adabas Transaction Manager operation.

**Note:**

An ATM transaction manager job must be run in each operating system image that will participate in distributed transaction processing (DTP). If more than one Adabas ID table is used in the same system image, an Adabas System Coordinator daemon and an ATM transaction manager must be run under each Adabas ID table that will participate in DTP. For further information, see ATM transaction managers and Adabas System Coordinator Groups.

## Step 6: Enable Databases for Two-Phase Commit Processing

### to enable databases for two-phase commit processing

1. Ensure that the parameter
 

```
ADARUN DTP=RM
```

 is set in every database that participates in global transactions coordinated by Adabas Transaction Manager.
2. Add ADD-FILE-LINK statements for the Adabas Transaction Manager product library and the Adabas System Coordinator product library to each database job that will run with DTP=RM.
3. Ensure that the job contains a specification for DDWORKR4, and that it identifies a suitable WORK dataset.
4. Ensure that the WORK 4 dataset is allocated and formatted.

The WORK 4 dataset should be allocated and formatted in the same way as the main WORK dataset. In the case of a Cluster Services or Parallel Services database, the WORK 4 dataset is shared by all members of the cluster.

*Important Note:*

For details about the WORK4 dataset, including information about sizing, please refer to the Adabas documentation, under *Defining an Adabas Database*, which is part of *Database Maintenance Tasks* in the section *DBA Tasks*.

## Step 7: Prepare the Adabas System Coordinator Daemons

The ATM load library should be made available to all SYSCO daemons which will run under the same Adabas ID table as an ATM transaction manager.

**Note:**

An application job or TP system that requires ATM services must execute alongside an ATM transaction manager and a SYSCO daemon, executing in the same system and under the same Adabas SVC or ID table.

The SYSCO daemons must be started with the parameter setting `PRODUCT=ATM`.

## Step 8: Make Adabas Transaction Manager Components Available

Add an ADD-FILE-LINK for the Adabas Transaction Manager product library to all batch, TIAM and UTM tasks that will use Adabas Transaction Manager services. The Adabas Transaction Manager library and the Adabas System Coordinator library must be available to Adabas Transaction Manager tasks.

**Note:**

As in previous releases, there is a requirement to use an unmodified ADALNK in certain areas. With Version 8.1 this restriction has been reduced to unmodified ADALNK being needed only when running standalone Adabas utility jobs.