First-time Installation

When installing PAC/PAA for the first time or in an environment where PAC/PAA was not installed before, perform the following steps after copying the tape contents to disk.

- Installation Procedure

Installation Procedure

Step 1: Establish PAC System Files

SMA Reference: Job I050, Step 1700 and Step 1702 for Predict 4.1 or Step 1703 for Predict 4.2.

Note:
If you install PAC in more than one environment, load the ACF and the PCF into the additional environments directly from the installation tape. DO NOT use Adabas utilities to install the files from an existing system.

1. Load the PAC Application Control File (ACF) contained in dataset PAC23*n*.SYS1
2. Load the PAC Predict Control File (PCF) contained in dataset, PAC23*n*.SYS2 (if Predict version 4.1 is used).
3. Load the PAC Predict Control File (PCF) contained in dataset, PAC23*n*.SYS3 (if Predict version 4.2 is used).
4. PAC always has priority over Predict when using a shared Coordinator FDIC file. If a Predict load / import operation can run parallel to a PAC load operation at your site, you are strongly recommended to use different Coordinator FDIC files for Predict and PAC. Please see the Predict Installation Manual on how to load a Predict Coordinator file.

Step 2: Establish PAA System File

SMA Reference: Job I050, Step 1710

If installing PAA in a separate production environment from PAC, skip this step (see the section Establishing a Separate PAA Environment for more information).

- Load the Predict Application Audit (PAA) file contained in dataset PAA23*n*.SYSF.

  Note:
  If you install PAA in more than one environment, load the PAA file into the additional environments directly from the installation tape. DO NOT use Adabas utilities to install the files from an existing system.

Step 3: Modify, Reassemble and Link the NATPARM Module/s

SMA Reference:

Batch	Job I060, Steps 0010,0015
Com-plete	Job I080, Steps 2300,2310
CICS	Job I080, Steps 2210,2220
TSO	Job I080, Steps 0010,0015
IMS/DC	Job I080, Steps 2500,2510
TIAM	Job I080, Steps 0100,0120
UTM	Job I080, steps 0200,0210

1. Modify all NATPARM modules used for batch and online processing with PAC. Follow the procedure below for each module:

   Note:
   The size parameters are recommendations only. You may have to adapt these values to your particular environment.

   The following Natural parameter settings are recommended during the installation of PAC/PAA 2.3.1:

   CDYNAM=8 (or higher)
   ESIZE=128
   LC=ON (for use with the new COMPARE utility)
   MADIO=0
   MAXCL=0
   MT=0
   RJESIZE=8

   Note:
   The ESIZE required by PAC depends on the characteristics of your migration. It is used to store individual entries in the object list when you process PAC migration events or use the Expand function. The actual size needed may be larger or smaller than 128K. If error message NAT0886 occurs, the ESIZE has been set too low and has to be set higher.

2. For online and batch processing, set:

   PRINTER 1 in either the NTPRINT macro or dynamically using the printer parameter.

3. Set:

   WORK 1,2,3 in either the NTWORK macro or dynamically using the work parameter.

   OPEN=OBJ in the NTWORK macro.

4. Specify the following NTFILE parameters for the PAC ACF and PCF files and PAA file. For each file replace *m* with the appropriate database number and *n* with the appropriate file number.

   NTFILE ID=210,DBID=m, FNR=n (ACF)
   NTFILE ID=211,DBID=m, FNR=n (PCF)
   NTFILE ID=178,DBID=m, FNR=n (PAA)

5. Setting up NATRJE for the various TP-Monitors:

   For information about setting up and installing this functionality of Natural, please refer to the Natural Installation and Operations documentation. (Natural under CICS and Natural under IMS / TM).

6. Assemble and link the NATPARM(s) modules.

Step 4: Link the Batch Natural Nucleus

SMA Reference: Job I060, Step 0020

1. Find the JCL used to link your current batch Natural nucleus.

   This will ensure that all INCLUDE statements specified when you built your current batch Natural nucleus are included in this step.

2. In the INCLUDE statement for the NATPARM, specify the name of the batch NATPARM module that you reassembled in Step 3: Modify, Reassemble and Link the NATPARM Module(s).

3. Link the Natural nucleus.

Step 5: Load PAC/PAA System Programs

SMA Reference: Job I061, Step 1700

- The PAC/PAA system programs are contained in the dataset PAC23*n*.INPL and are loaded to your Natural FNAT and FUSER system files using the Natural utility INPL.

Step 6: Load PAC/PAA Error Message Texts

SMA Reference: Job I061, Step 1701

- The PAC/PAA error texts are contained in the dataset PAC23*n*.ERRN and are loaded to your Natural system file (FNAT) with the Natural utility ERRLODUS.

Step 7: Define the PAC Libraries - Natural Security

1. Define the libraries SYSPACUS, SYSPAC (make SYSDIC and SYSPACUS a steplib; SYSTEM must be specified last in the list), SYSPACA (people-protected=yes, make SYSPAC a steplib; SYSTEM must be specified last in the list) to Natural Security.

2. If you specify a start-up transaction MENU on the Natural Security Modify Library screen, then specify ’N’ for batch execution.

3. Link all users requiring access to PAC Administrator Functions to the library SYSPACA.

4. Define online and batch user IDs to Natural Security as necessary.

5. Batch user IDs may be necessary to prevent NAT3048 and NAT8048 errors (duplicate user logon) when online users submit batch jobs under Natural Security.

6. You are recommended to use the following naming convention when both online and batch user IDs are assigned in Natural Security:

   Online user ID: USER

   Batch user ID: USERBAT

Step 8: Copy LOGON000 and PACSTEP - Non Natural Security

SMA Reference: Job I082 Step 1710

Note:
LOGON000 is delivered in source format. The contents of this module shows as an example of how the various PAC required settings are to be used. It is recommended that you make the correct adaptations to fit into your own environment.

- Copy modules LOGON000 and PACSTEP from SYSPACUS to SYSTEM on FNAT using the SYSMAIN Utility.

Step 9: Modify the Batch Procedure PACBATCH - OS/390 only

The batch procedure PACBATCH is used when performing various PAC functions in batch mode. It is provided in the dataset PAC23*n*.SRCE.

1. Modify PACBATCH to conform to your site's requirements and JCL standards.
2. Specify the values appropriate for your environment in the substitution variables.
3. Copy the modified PACBATCH to your environment's user-procedure library.

Step 10: Initializing PAC

SMA Reference: Job I200 Step 1705

1. Execute module PACPIBEG from the library SYSPAC. This program expects a parameter (USER-ID). This will create a PAC User Profile for that (USER-ID).

   Ensure that the NSC start-up transaction 'MENU' is not defined.

   Note:
   For Batch (without Natural Security): PAC expects as input a user ID. The default is DBA.

   Note:
   For Batch (with Natural Security): If user ID DBA is used for this function, ensure that it is linked to library SYSPAC, alternatively any user-ID known to Natural Security and linked to library SYSPAC can be used to perform this function.

   Batch Example:

```
 //CMSYNIN      DD      *
SYSPAC,DBA,DBA1
PACPIBEG
USER-ID
/*
```

2. For Predict version 4.1 or 4.2 define a coordinator FDIC file for the PCF system file. To do this start a PAC session and enter into the PAC ADMIN section. Enter into the General defaults / System defaults / Modify system defaults option. This screen now has an option / parameter to enable the user to set / re-set the initial values of the coordinator FDIC file.

Step 11: Load the PAC Jobs

SMA Reference: Job I200, Step 1707

Sample JCL texts necessary for various PAC batch activities are supplied in data set PAC23*n*.DATA. The prefix of the name of a text indicates the operating system in whose JCL the text is written. A list of the supplied JCL texts is supplied in Sample Jobs.

To load the relevant JCL texts from data set PAC23*n*.DATA to the ACF do the following:

1. Assign data set PAC23*n*.DATA to file CMWKF01.
2. Execute module PACJOBLO from library SYSPAC; specify the value of its one parameter: a range of JCL text names indicating which of the texts in PAC23*n*.DATA should be loaded to the ACF.

   Example:

   ```
   PACJOBLO OS*
   ```

   This will load all jobs for operating system (OS/390).

Step 12: Start PAC

1. Log on to Natural.
2. Ensure that Natural NTFILE definitions for the PAC ACF and PCF system files are correct. If the NTFILE definitions are incorrect, you will receive a PAC initialization error and will be unable to enter the PAC system.

   Note:
   The LFILE parameter may be used temporarily as a dynamic override until the NATPARMs are updated.
3. If the PAC ACF or PCF system files have been renumbered, run the PACADJST utility to update the files. Refer to the PAC Administration documentation.
4. Invoke the PAC administration system by entering `ADMIN` at the NEXT prompt from library SYSPAC.

Step 13: Initialize PAA

Predict Application Audit (PAA) can be initialized only after ALL installation steps have been completed successfully. Perform the following sequence of activities.

1. **Define the PAA Libraries (With Natural Security)**

   Define the libraries SYSPAAUS, SYSPAA (make SYSPAC, SYSPAAUS and SYSPACUS a steplib; SYSTEM must be specified last in the list) and SYSPAAA (people-protected=yes, make SYSPAA and SYSPAC a steplib; SYSTEM must be specified last in the list) to Natural Security.

2. **Define the PAA-AUTH group (With Natural Security)**

   PAA-AUTH is a special group of PAA users who are authorized to add, modify, and delete applications, statuses, application status links, and migration paths.

   1. Define the group PAA-AUTH to Natural Security.
   2. Add to this group all users requiring the ability to run migration events (PAA jobs) that migrate objects into production statuses.
   3. Link all users or groups requiring access to PAA Administrator Functions to the library SYSPAAA.

3. **Customize Logon Exit (Without Natural Security)**

   SMA Reference: I082 Step 1710

   1. If you have not already done so for PAC, customize the user exit LOGON000 in library SYSPACUS as required. Then catalog and copy it to library SYSTEM on the FNAT using the SYSMAIN utility.

2. Copy module PACSTEP from library SYSPACUS to library SYSTEM on the FNAT using the SYSMAIN utility.

4. **Initialization**

   SMA Reference: Job I200, Step 1710

   Ensure that the NSC start-up transaction 'MENU' is not defined.

   1. Execute module PAAPIBEG from the library SYSPAA.

   2. With Natural Security, define online start-up transaction MENU for libraries SYSPAA and SYSPAAA.

Step 14: Starting PAA

1. Log on to Natural.

2. Ensure that the Natural NTFILE definitions for the PAA system file is correct. If the NTFILE definitions are incorrect, you will receive a PAA initialization error and will be unable to enter the PAA system.

   Note:
   The LFILE parameter may be used temporarily as a dynamic override until the NATPARMs are updated.

3. Invoke the PAA administration system by entering ADMIN at the NEXT prompt from library SYSPAA.

