



System Automation Tools

Version 3.1.3

Installing SAT / Mainframe

This document applies to System Automation Tools Version 3.1.3 and to all subsequent releases.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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Installing SAT / Mainframe

This section describes System Automation Tools (SAT) and its installation under OS/390, VSE/ESA and BS2000/OSD.

It covers the following topics:

- SAT Concepts
- Installing System Automation Tools
- Prerequisites
- Installation Tape
- Storage Requirements
- Copying the Tape Contents to Disk
- Installation Procedure
- Natural Security Definitions
- External Security Definitions
- Define SAT, Natural, Product Parameters
- Starting a Server
- Messages and Codes

SAT Concepts

System Automation Tools allows you to start the products of the ESM family whenever Entire System Server is started (AUTO-Start) or on request, using the product's **start monitor** function. Parameters can be specified for:

- the SAT environment itself;
- the Natural environment used;
- each product of the SAT family, i.e.:
 - Entire Operations (NOP);
 - Entire Output Management (NOM);
 - Entire Event Management (NCL);

System Automation Tools can start servers for the above products:

- independently of the underlying operating system. This means the same parameters are valid in all environments;
- independently of the product version, even with different product versions in parallel;
- independently of the version of System Automation Tools. This means compatibility with future versions of System Automation Tools and the products under its control;
- independently of the mode of operation in which these servers run. This means they can run as subtasks in OS/390 and VSE/ESA or as separate batch jobs under OS/390, VSE/ESA and BS2000/OSD;
- even in multi-node-environments consisting of any number of nodes. Of course, they must be interlinked with Software AG's Entire Net-work products.

Installing System Automation Tools

This subsection covers the following topics:

- Installation Jobs
 - Using System Maintenance Aid
-

Installation Jobs

The installation of Software AG products is performed by installation **jobs**. These jobs are either created **manually** or generated by System Maintenance Aid (SMA).

For each step of the installation procedure described below, the job number of a job performing the respective task is indicated. This job number refers to an installation job generated by SMA. If you are not using SMA, a sample installation job of the same number is provided in the job library on the System Automation Tools installation tape; you must adapt this sample job to your requirements.

Using System Maintenance Aid

For information on using Software AG's System Maintenance Aid (SMA) for the installation process, refer to the **System Maintenance Aid Documentation**.

Prerequisites

Before attempting to install the System Automation Tools, the following Software AG products must already be installed at your site:

- Adabas Version 7.1.2 or above (on UNIX Version 3.1 or above);
- Natural Version 3.1.6 or above, including the Software AG Editor component (on UNIX Version 5.1 or above);
- Entire System Server Version 3.1.2 or above (if JES3 is installed, NPR 2.2.2 is supported);
- Entire System Server for Unix 2.1.1.05 and above (optional);
- Natural Security (same as NAT) (optional); for UTM users under BS2000/OSD Natural Security is required;
- Entire Network 5.6.1 or above (optional, for multi-CPU support).

Installation Tape

This subsection covers the following topics:

- Contents of the Installation Tape
- OS/390
- BS2000/OSD
- VSE/ESA

Contents of the Installation Tape

The installation tape contains the data sets listed in the table below. The sequence of the data sets is shown in the Report of Tape Creation which accompanies the installation tape.

The notation *nnn* in file names represents the version number of the product.

The SAT (System Automation Tools) load/module and source libraries contain modules shared by the SAT product family.

OS/390

Data Set Name	Contents
SAT <i>nnn</i> .JOBS	System Automation Tools Installation Jobs
SAT <i>nnn</i> .INPL	System Automation Tools System Libraries (Natural)
SAT <i>nnn</i> .ERRN	System Automation Tools Error Messages
SAT <i>nnn</i> .SYSF	System Automation Tools System File
....*	* Some data sets for the solution of certain SAGSIS problems may be included on the installation tape. Please refer to the problem descriptions before applying them.

BS2000/OSD

File Name	Contents
SAT <i>nnn</i> .JOBS	System Automation Tools Installation Jobs
SAT <i>nnn</i> .INPL	System Automation Tools System Libraries (Natural)
SAT <i>nnn</i> .ERRN	System Automation Tools Error Messages
SAT <i>nnn</i> .SYSF	System Automation Tools System File
....*	* Some data sets for the solution of certain SAGSIS problems may be included on the installation tape. Please refer to the problem descriptions before applying them.

VSE/ESA

Data Set Name	Contents
SAT <i>nnn</i> .LIBR	System Automation Tools Installation Jobs
SAT <i>nnn</i> .INPL	System Automation Tools System Libraries (Natural)
SAT <i>nnn</i> .ERRN	System Automation Tools Error Messages
SAT <i>nnn</i> .SYSF	System Automation Tools System File
....*	* Some data sets for the solution of certain SAGSIS problems may be included on the installation tape. Please refer to the problem descriptions before applying them.

Storage Requirements

During installation, the following files are loaded from the installation tape:

- OS/390
 - BS2000/OSD
 - VSE/ESA
-

OS/390

File Name	Type	Space on 3380 Disk
SATnnn.JOBS	PDS	7 tracks
SATnnn.INPL	SEQ	40 tracks
SATnnn.ERRN	SEQ	1 track
SATnnn.SYSF	SEQ	1 track

BS2000/OSD

File Name	Type	Storage Space
SATnnn.JOBS	PAM	144 PAM pages
SATnnn.INPL	SAM	288 PAM pages
SATnnn.ERRN	SAM	33 PAM pages
SATnnn.SYSF	SAM	48 PAM pages

VSE/ESA

File Name	Type	Space on 3380 Disk
SATnnn.LIBJ	SEQ	1 track
SATnnn.INPL	SEQ	40 tracks
SATnnn.ERRN	SEQ	1 track
SATnnn.SYSF	SEQ	1 track

Copying the Tape Contents to Disk

This subsection covers the following topics:

- OS/390
- BS2000/OSD
- VSE/ESA

OS/390

If you are using System Maintenance Aid (SMA), refer to the SMA documentation (included on the current edition of the Natural documentation CD).

If you are not using SMA: Follow the instructions below.

This section explains how to:

- Copy data set COPY.JOB from tape to disk.
- Modify this data set to conform with your local naming conventions.

The JCL in this data set is then used to copy all data sets from tape to disk. After that, you will have to perform the individual install procedure for each component.

Step 1 - Copy data set COPY.JOB from tape to disk

The data set COPY.JOB (label 2) contains the JCL to unload all other existing data sets from tape to disk. To unload COPY.JOB, use the following sample JCL:

```
//SAGTAPE JOB SAG,CLASS=1,MSGCLASS=X
//* -----
//COPY EXEC PGM=IEBGENER
//SYSUT1 DD DSN=COPY.JOB,
// DISP=(OLD,PASS),
// UNIT=(CASS,,DEFER),
// VOL=(,RETAIN,SER=<Tnnnnn>),
// LABEL=(2,SL)
//SYSUT2 DD DSN=<hilev>.COPY.JOB,
// DISP=(NEW,CATLG,DELETE),
// UNIT=3390,VOL=SER=<vvvvvv>,
// SPACE=(TRK,(1,1),RLSE),
// DCB=*.SYSUT1
//SYSPRINT DD SYSOUT=*
//SYSIN DD DUMMY
//
```

Where:

<hilev> is a valid high level qualifier

<Tnnnnn> is the tape number

<vvvvvv> is the desired volser

Step 2 - Modify COPY.JOB to conform with your local naming conventions

There are three parameters you have to set before you can submit this job:

- Set HILEV to a valid high level qualifier.
- Set LOCATION to a storage location.
- Set EXPDT to a valid expiration date.

Step 3 - Submit COPY.JOB

Submit COPY.JOB to unload all other data sets from the tape to your disk.

BS2000/OSD

- Step 1
- Step 2

If you are not using SMA, copy the data set SAT nnn .JOBS from tape to disk using the procedure described below. In this procedure, the following values must be supplied:

- In the data set names, replace nnn with the current version number of the data sets.
- Replace XXXXXX with the volume serial number of the tape.
- Replace YYY with the file sequence number.

Step 1

Copy the job data set SAT nnn .JOBS from tape to disk using the BS2000/OSD utility PERCON or EDT.

If you use PERCON, issue the following commands:

```
/FILE SAT $nnn$ .JOBS ,VOL=xxxxxxx,DEV=T9G -
/      ,BLKSIZE= ,RECSIZE= ,RECFORM= ,FCPTYPE= -
/      ,STATE=FOREIGN ,FSEQ=YYY ,LINK=PCIN
/FILE P.SAT $nnn$  ,LINK=PCOUT
/EXEC PERCON
END
```

If you use EDT, issue the following commands:

```
/FILE SAT $nnn$ .JOBS ,VOL=xxxxxxx,DEV=T9G -
/      ,BLKSIZE= ,RECSIZE= ,RECFORM= -
/      ,STATE=FOREIGN ,FSEQ=YYY ,LINK=EDTSAM
/EXEC EDT
@ READ ' / '
@ SY ' /REL EDTSAM '
@ WRITE ' P.SAT $nnn$  '
@ HALT
```

Step 2

Issue the command:

```
/CALL P.SATnnn,PRODUCT=SATnnn
```

An example job library LIB.SATnnn is created from the procedure data set.

VSE/ESA

The sample JCS supplied on tape for the installation of System Automation Tools assumes one library which has installation sublibraries per Software AG product. In addition to these sublibraries, you need a work sublibrary and a sublibrary for sample installation jobs for System Automation Tools. It is recommended that you create this library and the work sublibrary now.

The following job creates this library. The size needed for the library depends on the number of products and versions which are to be loaded into this library later on; the following example uses 1200 tracks of a 3380 device as a recommended size:

In the // EXTENT statement, replace vvvvvv with the VOLSER of the pack where the data set is to reside, and nnnn with the starting track of the data set.

```
* $$ JOB JNM=SMADEF,CLASS=0,DISP=D,LDEST=( , . . . )
* $$ LST CLASS=A,DISP=D
// JOB SMADEF
// DLBL SAGLIB,'INSTALL.SMALIB',99/365,SD
// EXTENT ,vvvvvv,1,0,nnnn,1200
DEFINE LIB=SAGLIB
DEFINE SUB=SAGLIB.USRLIB,REUSE=AUTO,R=Y
/*
/&
* $$ EOJ
```

The sample job assumes that standard label SAGLIB is defined for this library. You can use the following job to add this label to the standard label area:

In the // EXTENT statement, replace vvvvvv with the VOLSER of the pack where the data set is to reside.

```
* $$ JOB JNM=STDLABEL,CLASS=A,DISP=D
* $$ LST CLASS=A,DISP=D
// JOB STDLABEL
// OPTION STDLABEL=DELETE
SAGLIB
/*
// OPTION STDLABEL=ADD
// DLBL SAGLIB,'INSTALL.SMALIB'
// EXTENT ,vvvvvv
/*
/&
* $$ EOJ
```

Now copy the sublibrary containing System Automation Tools sublibrary and the sample installation jobs from tape using the following JCS:

```

* $$ JOB JNM=SATJOBS,CLASS=0,DISP=D,LDEST=*,SYSID=1
* $$ LST CLASS=A,DISP=D
// JOB SATJOBS
// ASSGN SYS005,IGN
// ASSGN SYS006,cuu,VOL=SATnnn
// MTC REW,cuu
// MTC FSF,SYS006,nn
* Tape positioned at file ?, tape mark nn
* *** Now process SATnnn.LIBR - JOBS ***
// EXEC LIBR,PARM='MSHP'
  RESTORE SUBLIB=SAGLIB.SATnnnJ:SAGLIB.SATnnnJ -
          SUBLIB=SAGLIB.SATnnn:SAGLIB.SATnnn -
          TAPE=SYS006 -
          LIST=YES -
          REPLACE=NO
/*
// MTC REW,SYS006
/*
/&
* $$ EOJ

```

The notation *cuu* represents the physical unit address of the tape drive.

The notation *nn* represents the file sequence number given by $(3 * \text{file-no}) - 2$, as shown in the **Report of Tape Creation**. If your library is the first data set on the tape, leave out the // MTC ... instructions.

The notation *nnn* represents the version number of the product.

Now use job SATTAPE from this job library to restore the System Automation Tools sublibrary from tape and make System Automation Tools known to MSHP.

All further data sets will be directly used from tape by the installation jobs.

Installation Procedure

This subsection covers the following topics:

- Step 1: Load SAT System File
 - Step 2: Scratch SAT Library
 - Step 3: Create NATPARM Module
 - Step 4: Link Natural Subtask/Batch
 - Step 5: Load the INPL and ERRN Files
 - Step 6: Create NATPARM Module
 - Step 7: Relink all Online Natural Nuclei
-

Step 1: Load SAT System File

System Automation Tools (SAT) Versions 3.1 and above use a SAT system file with LFILE 131. Please use the Adabas load utility (Job I050, Step 3700) to load the SATnnn.SYSF file. The system file is in Version 6 format. For SAT Versions 3.1.2 and above, this step can be omitted if SAT is not being installed for the first time.

When migrating from SAT311 you must use Job I082, Steps 3701 and 3703 to update the SAT system file.

For the ADALOD utility use the following parameters:

Parameter	Value
MAXISN	100000
DSSIZE	10
UISIZE	100B
NISIZE	1000B
ISNREUSE	YES
DSRU	YES

Step 2: Scratch SAT Library

(Job I051, Step 3700)

If the System Automation Tools sub-component has been installed before, scratch the SYSSAT library using the Natural SYSMAN utility and scratch the error messages with the SYSERR utility.

Step 3: Create NATPARM Module

(for Natural Subtask/Batch, for OS/390 and VSE/ESA only)

Modify, assemble and link the parameter module for the Natural subtask.
To do this, adapt **Job I060: Steps 3700-3710** (subtask) / **Steps 0010-0015** (batch).

The module must contain at least the following parameters (entries for other products are possible, but not documented here). Refer to your **Natural Installation and Operations Documentation**.

Note:

To complete these settings additional parameters may be required for other product(s). See product-specific installation procedure.

NTPRM	ESIZE=96	Extended work area size.
	ASIZE=64	Entire System Server work area size. Choose a value between 48 and 64 ¹ .
	DATSIZE=90	Local data
	CDYNAM=10	Number of dynamic loaded modules.
	MAXCL=0	Max. program calls (no limit)
	MADIO=0	Maximum DBMS calls (no limit)
	ETEOP=OFF	No ET at end of program
	WH=ON	WAIT on HOLD, NAT314
	IM=D	Set input mode
	MT=0	Max. CPU time: no limit
	LS=132	Line Size
	PS=66	Page Size
NTFILE	ID=204,DBID=satdbid, FNR=satfnr	Locates main member ² .
NTFILE	ID=131,DBID=db, FNR=nr	SAT System File access, use real database ('db') and file number ('fnr') values
NTDB	PROCESS,148	Entire System Server Views cataloged to this DBID
NTBPI	TYPE=NAT,SEQ=0,NAME=bpname	Global buffer pool - specify SIZE= <i>nnn</i> instead of NAME= to use a local buffer pool (for NOM/ NCL only). Note: If you use a local buffer pool, the parameter SIZE must be 512 or higher.
NTPRINT	NTPRINT (1-4),AM=STD, OPEN=ACC	Printer definition.
NTWORK	(1-4),AM=STD	Work file definition (for NOM only)

¹. See the minimum values for Entire System Server.

². Must point to the FNAT to which SYSSAT was loaded.

Step 4: Link Natural Subtask/Batch

(Job I060: Step 3720 - Subtask / Step 0020 - Batch)

- OS/390
- BS2000/OSD
- VSE/ESA

Note about ESX:

Starting with Natural 2.3.4, the Entire System Server interface (ESX) is no longer a separate product but part of Natural (and included on the Natural installation tape).

The installation is described in **Installing the Entire System Server Interface** in the **Natural Installation Guide for Mainframes**.

OS/390

- For NPR and Natural
- For NOM

Servers for SAT products can be started either as subtasks or as separate batch jobs. Therefore, you need either a subtask Natural or a batch Natural.

The following libraries must be used for the linkage:

Library	Description
//NATLIB DD DISP=SHR,DSN=SAGLIB.NAT nnn .LOAD	Natural Load Library.
//NPRLIB DD DISP=SHR,DSN=SAGLIB.NPR nnn .LOAD	Supplied Entire System Server Load Library.

The notation nnn in data set names represents the version number of the product.

Note:

The result of the subtask linkage must be stored in any STEPLIB of the Entire System Server node used and it must be reentrant. This library, like any STEPLIB of the Entire System Server Started Task, must be APF-authorized.

- Take the link job of an existing batch Natural, link the Entire System Server interface to Natural as described in the **Natural 3.1.4 Release Notes** and include the statements listed below.
- Adjust NATLIB to your Natural load library and NPRLIB and SMALIB to your Entire System Server load library.
- To make Con-nect features available, ensure that the appropriate CNT/TRS modules are included.

For NPR and Natural

The following example applies to NPR 3.1.1 and above together with Natural 3.1.6 and above. It demonstrates how to link the Natural subtask front-end.

INCLUDE ...	
INCLUDE SMALIB(ESYNODTB)	ESY node table
INCLUDE ...	

For NOM

The following is an example of how to link the Natural subtask front-end:

INCLUDE SMALIB (NATOS)	Natural subtask / batch interface
INCLUDE <natparm>	NATPARM
INCLUDE NPRLIB (ADANPR)	Adabas / Entire System Server interface
INCLUDE NATLIB(SATDTA)	SAT Calendar (required for NOP, NOM, NCL), if Natural Version 3.1.6 and above are used.
ENTRY NATMVS	
NAME NATSAT31 (R)	

BS2000/OSD

For NPR and Natural

- Take the link job of an existing batch Natural, link the Entire System Server interface to Natural as described in the **Natural 3.1.4 Installation Documentation** and include the statements listed below.
- To make Con-nect features available, ensure that the appropriate CNT/TRS modules are included.

The following libraries must be used for the linkage:

Library	Description
<NATLIB> = NAT nnn .MOD	Supplied Natural Load Library.

The notation nnn in data set names represents the version number of the product.

For NPR and Natural

The following example applies to NPR 3.1.1 and above together with Natural 3.1.6 and above. It demonstrates how to relink Natural, including the following modules:

INCLUDE SATDTA,<NATLIB>	SAT Calendar (required for NOP, NOM, NCL).
INCLUDE xxxxxxxx,<pppLIB>	Product-specific modules (<pppLIB> refers to the product's load library)

VSE/ESA

For NPR and Natural

- Take the link job of an existing batch Natural, link the Entire System Server interface to Natural as described in the **Natural 3.1.4 Installation Documentation** and include the statements listed below.
- To make Con-nect features available, ensure that the appropriate CNT/TRS modules are included.

Include the library definitions for USRLIB, NATLIB, and NPRLIB in your LNKEDT procedure: (LIBDEF chain).

For NPR and Natural

The following example applies to NPR 3.1.1 and above together with Natural 3.1.6 and above.

PHASE SATNT nnn	Change as required.
INCLUDE NATVSE	Natural Batch Driver
INCLUDE SATDTA	SAT Calendar (required for NOP, NOM, NCL), you will find SATDTA in the Natural library.
INCLUDE LNKVSER	Adabas interface
INCLUDE ...	Product-specific INCLUDEs

Step 5: Load the INPL and ERRN Files

(Job I061, Steps 3700 and 3702)

- Natural Security Environment
- Non-Natural Security Environment

Load the programs and error messages for System Automation Tools.

Library	File	Contents
SYSSAT	FNAT	System Automation Tools programs and error messages.

Note:

If there are any data sets for the solution of certain SAGSIS problems on the installation tape, refer to the problem descriptions before loading them, now.

Natural Security Environment

Define SYSSAT as STEPLIB for all products of the SAT product family.

Non-Natural Security Environment

The SYSSAT library is automatically defined as STEPLIB for all products of the SAT product family.

Step 6: Create NATPARM Module

(for Online Natural)

Modify, assemble and link the parameter module for the online Natural. To do this, adapt **Job I080** (see NAT314.JOBS). The module must contain at least the following parameters (entries for other products are possible, but not documented here):

NTPRM	ESIZE=96	Extended work area size
	SSIZE=60	Software AG Editor work area size
	ASIZE=64	Entire System Server work area size. Choose a value between 48 and 64.
	DATSIZE=90	Local data ¹ .
	CDYNAM=10	Number of dynamic loaded modules.
	MAXCL=0	Entries for SAT products ² . Max. program calls (no limit)
	MADIO=0	Maximum DBMS calls (no limit)
	ETEOP=OFF	No explicit Open
	WH=ON	WAIT on HOLD, NAT314
	IM=D	Set input mode
	MT=0	Max. CPU time: no limit
	LS=132	Line Size
	PS=66	Page Size
NFILE	ID=204,DBID=satdbid, FNR=satfnr	Locates main member ³ .
NFILE	ID=131,DBID=db, FNR=fnr	SAT System File access, use real database ('db') and file number ('fnr') values.
NTDB	PROCESS,148	Entire System Server Views cataloged to this DBID.
NTBPI	TYPE=NAT,SEQ=0,NAME=bpname	Global buffer pool. Note: If you use a local buffer pool, the parameter SIZE must be 512 or higher.

- ¹. See the minimum values for Entire System Server.
- ². See installation section in documentation for desired product.
- ³. Must point to the FNAT to which SYSSAT was loaded.

Step 7: Relink all Online Natural Nuclei

All Natural modules, online and batch, which will be used to execute ESM functionality (for example online usage of SYSEOR, SYSNOM, SYSNCL and batch jobs used for NOM printing, archiving, etc.) must be relinked:

- Link the Entire System Server interface to Natural as described in the **Natural 3.1.4 Installation Documentation** or above.
- Include SATDTA (SAT Calendar function) from the Natural library and product-specific load modules as described in the documentation of the relevant products.
- To make Con-nect features available, ensure that the appropriate CNT/TRS modules are included.

Natural Security Definitions

If Natural Security is installed at your site, you must create the following definitions:

- Applications
 - User
-

Applications

Application	Description
SYSSAT	System Automation Tools application.
SYSSATU	System Automation Tools user library.

User

Define the Natural Security User representing the various servers of the SAT product family as **person** with User ID and password identical to <NSCUSER> and <NSCPSWD> parameters described in the subsection Parameter Blocks and Parameters.

Specify PRIVATE LIBRARY=YES.

If you define the above applications **people-protected**, you must link this User to them.

External Security Definitions

OS/390 only

If Entire System Server is installed with an external security system (RACF, ACF2, TOP SECRET), a User ID identical to the <ESYUSER> parameter (described in the subsection Parameter Blocks and Parameters) must be defined in the security system. The user must have sufficient authorization to access the spooling system, the console and all data sets used in the online system.

Define SAT, Natural, Product Parameters

This section covers the following topics:

- General
- General Layout of a Parameter Block
- Long DB Ids and File Numbers
- Parameter Blocks and Parameters
- SAT Directory Member - SATDIR
- SAT in Client/Server Environments

General

You can define the run-time environment of your products in one or more Natural members in the SAT user library, SYSSATU. You can specify any member name except the 'main' member, which must conform to the following naming convention: SATP*nnn*, where *nnn* = Entire System Server node under which the SAT products are AUTO-Started.

In the 'main' member, you must specify all parameter values needed to start the products. An asterisk * in the first column denotes a comment line. Lines prefixed with SAT are treated as default values for SAT or Natural. They can be overwritten by product-specific values. This means that all occurrences of a parameter are merged when the product is started.

For each occurrence of a SATSTART entry a product server is started.

Note:

If Software AG's integrated application development tool Natural ISPF is installed at your site, you can use the SAT menu to perform this maintenance work and for logging on to any of Software AG's solutions in the Entire Systems Management product line. The SAT menu is provided in the SAT*nnn*.INPL data set. To make this menu available within Natural ISPF's menu system, simply activate the SAT subsystem of Natural ISPF.

If you need further information, see the section System Configuration in the Natural ISPF Administration Documentation.

General Layout of a Parameter Block

```
<Prefix> <block-identifier> [<keyword>=<value>,...]
```

where:

Parameter	Description
<Prefix>	SAT or compressed product code + prefix as specified in the SATSTART instruction.
<block-identifier>	SATENV/NATENV/SATSTART or product block identifier.
[<keyword>=<value>,...]	Block-specific parameter.

Examples

```
SAT  SATENV  NATTASK=NOPSUBT, NSC=NO
NOP321 NATENV  DU=OFF, FUSER=(9,81)
```

Long DB Ids and File Numbers

Database IDs (dbid) and file numbers (fnr) may be specified with up to 5 digits, that is from 1 to 65,535, as specified in the Natural documentation.

Long DB Ids and File Numbers

Database IDs (dbid) and file numbers (fnr) may be specified with up to 5 digits, that is from 1 to 65,535, as specified in the Natural documentation.

Parameter Blocks and Parameters

This subsection covers the following topics:

- Table of Parameter Blocks and Parameters
 - Example
 - SAT Environment Settings
 - Natural Environment Settings
 - Product Environment Settings
 - Product Automatic Start
 - Contents of Member NOPPARMS in SYSSATU
-

Table of Parameter Blocks and Parameters

Parameter Block	Parameter	Description
NATENV	-	All profile parameters supported by Natural are possible.
Product Block	-	See product.
SATENV	NSC=YES/NO	Indicates whether Natural Security is installed or not.
	NSCUSER=	If Natural Security is installed, this is the user ID for logging on to it.
	NSCPSWD=	Password for logging on to Natural Security.
	ESYUSER=	User ID for logging on to Entire System Server, if it is installed, and an interface to an external security system is activated. In BS2000/OSD: Use the user ID under which the Entire System Server is running.
	NATTASK=	Name of the Natural subtask module for starting a server as a subtask.
	NATBATCH=	Name of the Natural batch module for starting a server as a batch job.
	NATSKEL=	Job skeleton for starting a server as a batch job.
	JOBPREF=zzz	Job name prefix for building job names when starting servers as a batch job. For example, the Characters zzz will replace 'EOR' in monitor jobname EORMON.
SATSTART	SATVERS=31	SAT version, which is supported by the product startup program. This does not necessarily reflect the currently installed SAT version - it means the version documented as prerequisite for the specific product.
	PRODUCT=	3-byte code, eg.: NOP, NOM, NCL.
	PREFIX=	PRODUCT and PREFIX are compressed into a prefix which identifies the server-specific parameters.
	TYPE=BATCH/SUBTASK	Start server as a batch job or subtask.
	APPLLIB=	Name of the Natural library where the product is installed.
	SERVSYSF=	Product-specific data file. For each SATSTART instruction of one SATPxxx member, a different data file must be referred to.
	MEMBER=	You can specify a member where product-specific parameters are located.

Example

The member SATP148 in SYSSAT provides an example of a 'main' member. To use this as the basis for your own member: just copy it to SYSSATU and adapt it.

In the example below, it is assumed that you are running three products of the SAT product family (NCL, NOM and NOP) as subtasks on Node 148. The parameters of NOP are located in a second parameter member NOPPARMS.

SAT Environment Settings

SAT *	SATENV	NATTASK=SAT313ST NATBATCH=NAT316BA NATSKEL=JSKELVSE ESYUSER=NOMMON NSC=YES NSCUSER=NOMMON NSCPSWD=NOMMON STEPLIB1=(SYSLIBS,dbid,fnr) STEPLIB2=(SYSEXT,dbid,fnr) STEPLIB3=(SYSTEM,dbid,fnr)	1
NCL212 *	SATENV	NATTASK=NSATT08 NSC=NO ESYUSER=NCLMON	2
NOM221 *	SATENV	NATTASK=NSATT08 NSC=NO ESYUSER=NOMMON	2
NOP411 *	SATENV	NSC=NO ESYUSER=NOPMON JOBPREF=zzz	2

Natural Environment Settings

If the following parameters are passed to Natural as dynamic parameters, the maximum string length of all parameters may not exceed 250 bytes.

SAT *	NATENV	DU=OFF MAXCL=0 MADIO=0 MT=0 ID=' ' DC='.' ETID='' (for NOM only)	3 9
NCL212 *	NATENV	FNAT=(1,5)	4
NOM221	NATENV	FNAT=(9,45)	4
NOP411 *	NATENV	FNAT=(9,45)	4

Product Environment Settings

NOM211	NOMENV	BS2USER=PROD01	8
--------	--------	----------------	---

Product Automatic Start

SAT *	SATSTART	SATVERS=23 PRODUCT=NCL PREFIX=212 TYPE=SUBTASK APPLLIB=SYSNCLSV SERVSYSF=(1,7)	5
SAT *	SATSTART	SATVERS=31 PRODUCT=NOM PREFIX=221 TYPE=SUBTASK APPLLIB=SYSNOM SERVSYSF=(9,46)	5
SAT *	SATSTART	SATVERS=31 PRODUCT=NOP APPLID=SYSEOR PREFIX=411 /* EOR 411 SUBTASK TYPE=SUBTASK APPLLIB=SYSEOR SERVSYSF=(9,65)	5

Contents of Member NOPPARMS in SYSSATU

NOP411 *	SATENV	NSC=YES, NSCUSER=NOPMON, NSCPSWD=HUGO	6
NOP411 *	NATENV	DU=ON	7

Explanations:

- ¹ Sets the SAT defaults for all SAT products, here: NOP and NOM.
- ² Overwrites some SAT values for NCL212, NOM221 and NOP411 respectively.
- ³ Sets the NAT defaults for all SAT products.
- ⁴ Overwrites some NAT values for NCL212, NOM221 and NOP411 respectively.
- ⁵ Specifies that the servers for NCL212, NOM221 and NOP411 respectively should be started as subtasks.
- ⁶ Overwrites some SAT defaults for NOP411 only.
- ⁷ Overwrites some NAT defaults for NOP411 only.
- ⁸ Product environment settings are documented in the corresponding product installation documentation.
- ⁹ It is recommended to use ETID=''. Check Natural documentation for the valid ETID syntax (applies only to NOM).

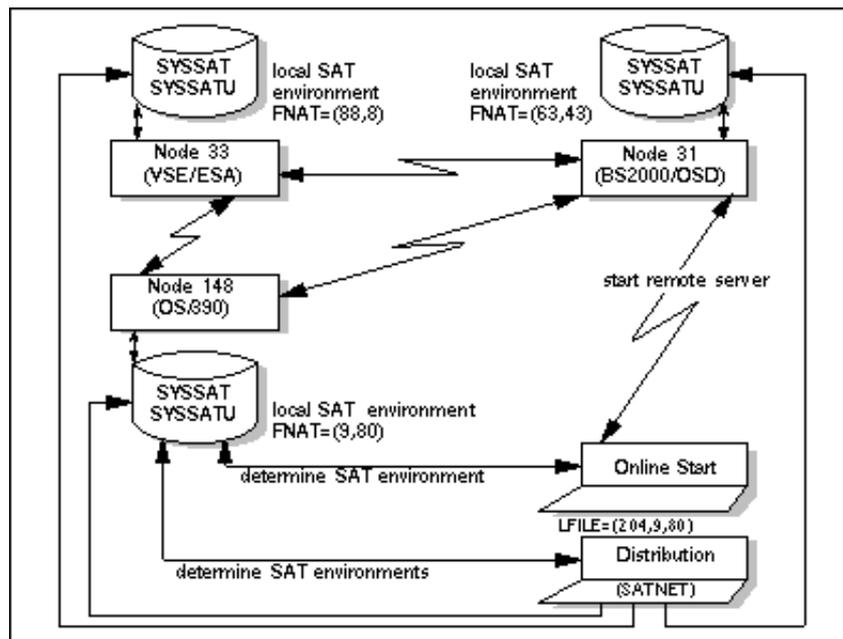
SAT Directory Member - SATDIR

- General
- SAT in Distributed Computing Environment
- Explanation
- General Description of SATDIR
- General Description of SATNET

General

You must define your SAT environment(s) in the member SATDIR in SYSSATU. The entries in this member are used to distribute your definitions into your SAT environments (with the SATNET program) and to determine the **local** SAT environment for a specific node when starting servers from online.

SAT in Distributed Computing Environment



Explanation

A user has logged onto Natural, whose LFILE-entry for ID=204 is pointing to FNAT=(9,80). The user's **main** member SATP148 and the member SATDIR reside in the SYSSATU library of that FNAT. With this connection he can start SAT product servers online.

General Description of SATDIR

Database IDs (dbid) and file numbers (fnr) may be specified with up to 5 digits.

Syntax

```
SAT $nmn$  SATDIR SATSYSF=( $\langle$ SATDBID $\rangle$ , $\langle$ SATFNR $\rangle$ )
```

where:

```
 $nmn$  = Entire System Server node number  
SATDBID = DBID of local FNAT  
SATFNR = FNR of local FNAT
```

Example

```
SAT148 SATDIR SATSYSF=(9,80)  
SAT033 SATDIR SATSYSF=(88,8)  
SAT031 SATDIR SATSYSF=(63,43)
```

These three lines reflect the scenario above.

General Description of SATNET

In a distributed computing environment, this program can be used to copy SAT parameters from a central point to all other SAT files in the system. In this way, remote nodes can use local SAT files and do not depend on the central data base being active.

SATNET copies all sources in the SYSSATU library to all target environments as defined in the member SATDIR. A protocol is written to the member SATPROT in the SYSSATU library.

Invoke SATNET online. The following screen appears:

SAT in Client/Server Environments

This subsection covers the following topics:

- Client/Server Processes Communication
- Addressing
- SATSRV Parameters

Client/Server Processes Communication

ESM products use the 'Advanced Communication Interface' (ACI) of the Entire Broker to communicate between client and server processes. Each service provided by one or more servers is uniquely identified by the attributes CLASS, SERVER and SERVICE as shown in the example below (extract from Entire Broker attribute file):

```
*
* SERVICES NEEDED FOR NOM PRINT SERVER (MRS)
*
DEFAULTS = SERVICE
  CONV-NONACT    = 30S
  TRANSLATION    = SATTCHA
  SERVER-NONACT  = 2M
CLASS=PrintClass,SERVER=PCMRSPrintServer,SERVICE=Print
```

You can find more information on the above in the appropriate **Entire Broker Documentation**.

Note:

The source of the translation table SATTCHA is delivered in the Entire Broker source library. For information on how to assemble and activate this translation, see the subsection **User-written Translation Routines** in the **section 1** of the **Entire Broker Administration Documentation**.

Addressing

In order for a client or server to address a service, the client or server must pass the above parameters to REGISTER or SEND. SAT encapsulates this addressing data by allowing the ESM product to address the parameter with a symbolic name. The parameters are stored in text members of the SYSSATU library and subdivided into sections.

Example

- If you specify a name in the following format (two tokens, separated by a period '.'), then the name contains both the name of the **text member** and the name of the **section**:

```
XXXXXXXX.SSSSSS
```

where the first token, XXXXXXXX, is the **text member name** and the second token, SSSSSS, the **section name**. For example, the name:

PCMRS.Printer

addresses the section Printer in the text member PCMRS.

- If the name consists of only one token, then this is assumed to be the section in the text member SATSRV. For example, the name:

PCMRSPrinter

addresses the section PCMRSPrinter in the text member SATSRV.

SATSRV Parameters

Parameter	Meaning
WAIT-TIME	Corresponds to the parameter WAIT in the SDPA structure. ¹
TYPE	Type of communication. Must always be ACI.
BROKER-ID	Corresponds to the parameter BROKER-ID specified in the Entire Broker attribute file and in the SDPA structure. ¹
SERVER-CLASS	Corresponds to the parameter CLASS in the SDPA structure. ¹
SERVER-NAME	Corresponds to the parameter SERVER in the SDPA structure. ¹
SERVICE	Corresponds to the parameter SERVICE in the SDPA structure. ¹
USER-ID	Corresponds to the parameter USER-ID in the SDPA structure. ¹

¹ For a description of the SDPA structure, refer to the subsection **The ACI Control Block** in the **Entire Broker Reference Documentation**.

Example: SATSRV Parameters

```
PCMRSPrinter SATSRV TYPE=ACI
      BROKER-ID=BKR034
      SERVER-CLASS=PrintClass
      SERVER-NAME=PCMRSPrintServer
      SERVICE=Print
      USER-ID=MRS
      WAIT-TIME=60S
```

Starting a Server

Two methods are supported for starting a server of the SAT product family:

- ONLINE-Start
 - AUTO-START
-

ONLINE-Start

The start of a server of any SAT product

- Entire Operations
- Entire Output Management
- Entire Event Management

in any environment supported (OS/390, VSE/ESA, BS2000/OSD) can be performed online. Proceed as follows:

1. Use an online Natural with the following specifications:
 - FNAT must contain SYSSAT library (as installed in Step 2)
 - LFILE 204 must point to your local SYSSAT environment in order to find main member SATP nnn in SYSSATU (see Step 5 and Step 6 of the subsection Installation Procedure).
2. LOGON to the appropriate product library, for which you want to start the server(s).
3. Invoke the product-specific start command (see documentation for the product itself).
4. This start command reads the SATSTART parameter block of the appropriate product in SATP nnn and invokes the server initialization program.
5. You will be informed online about the success of the operation.

AUTO-START

- For OS/390 and VSE/ESA
- For BS2000/OSD
- For OS/390 and VSE/ESA
- For BS2000/OSD
- Starting Servers with TYPE=SUBTASK
- Starting Servers with TYPE=BATCH

With AUTO-START you can automatically start one or more servers at Entire System Server startup time. Proceed as follows:

1. Link a suitable Natural for this purpose (as described in Step 3 and Step 4):

For OS/390 and VSE/ESA

This must be a subtask-Natural, because it runs in the address space of the Entire System Server.

For BS2000/OSD

This must be a multi-user Natural.

2. To activate this process, adapt the startup parameters of Entire System Server. This consists of the following actions:

- Specify the name of the Natural module which should be given control.
- Specify the LOGON commands to invoke program SATSTART in library SYSSAT.

For OS/390 and VSE/ESA

Parameters to be filled in are marked with brackets <>; required values are denoted by capital letters.

```
NATSHARE=<Name of Natural shared nucleus, if used>
NATNUMSUB=<Maximum number of subtasks> (recommended: 20)
NATMOD=<Name of Natural subtask module as linked in Step 4
STRNTNP1=STACK=(LOGON SYSSAT,<NSC-USERID>,<NSC-PASSWORD>;
STRNTNP2=SATSTART;FIN),AUTO=OFF
```

or, if Natural Security is not installed:

```
STRNTNP1=STACK=(LOGON SYSSAT;SATSTART;FIN),AUTO=OFF
```

For BS2000/OSD

Parameters to be filled in are marked with brackets <>; required values are denoted by capital letters.

```
JOBNATSUB=<JCL location for Natural subtask AUTO-Start>
PRMNATSUB=<Parameters of ENTER/START-JOB>
NATNUMSUB=<Maximum number of subtasks> (recommended: 20)
```

Note:

You can find an example of JCL for Natural subtask AUTO-STARTs in the member E.STARTSAT in the LIB.SATnnn library.

3. During startup, the program SATSTART now gets control. As in the case of an online start, SATSTART uses the LFILE setting for File **204** to find its main member.
4. For each SATSTART instruction defined in the SATPnnn program, SATSTART starts a server. The type of the server (batch or subtask) is determined by the parameter TYPE.
 - For TYPE=SUBTASK:
The Natural subtask module specified with the NATTASK parameter is given control.
 - For TYPE=BATCH:
The Natural batch module specified with the NATBATCH parameter is given control. The necessary JCL for this batch job is expected in the Natural member specified with the NATSKEL parameter (library is SYSSATU). The jobname of the server task is created automatically.

For more information on the above, see the subsections Starting Servers with Type=Subtask and Starting Servers with Type=Batch.

5. These server sessions can be adapted with the SATENV parameter block:
Default settings are marked with the prefix SAT. They can be overridden by product-specific parameter blocks. The same holds true for Natural-specific parameter settings (NATENV block).
6. During each server startup, a product-specific initialization module gets control. Its name is automatically derived from parameters given in the SATSTART block in the following way:

<product>SAT<satvers>

For example: NOPSAT23

7. This server initialization module can itself start other servers.
8. You can check the success of this processing either by examining the Entire System Server protocol or by logging on to the online application and testing the server status online.

Starting Servers with TYPE=SUBTASK

For each SATSTART instruction, in the address space of Entire System Server (OS/390, VSE/ESA), a subtask is started which initiates the server start. The subtask name is built as follows:

pppSTAddddffff

where:

ppp = product code
dddd = DBID as specified in the SERVSYSF parameter
ffff = FNR

Note:

If you want to start servers as subtasks in a BS2000/OSD environment, proceed as follows:

1. Adapt either the NSBTSKIS member (for ISP format) or the NSBTSKSD member (for SDF format) in the SAT*nnn* source library.

Note:

The ADALNK parameter file is optionally supported. To use this function, you must change the member NSBTSKIS or NSBTSKSD correspondingly. Further information is available in the Adabas Release Notes.

2. Assemble it into the Entire System Server load library.

Subtasks are simulated by Entire System Server: batch jobs are submitted under the BS2000/OSD user ID as specified in the ESYUSER parameter. The job names of these batch jobs are built as follows:

pppST*nnn*

where:

ppp = product code
nnn = node number

Starting Servers with TYPE=BATCH

For each SATSTART instruction, a batch job is submitted. For this submit, the user ID specified in the ESYUSER parameter is in effect. The job name is built as follows:

```
pppnnrr
```

where:

```
ppp = prefix as specified in the JOBPREF parameter or product code  
nnn = node number  
rr = run number
```

You must prepare a job skeleton which reflects your system environment and which is used by the SATSTART program. Examples are delivered in SYSSAT which you can use as a basis for your skeletons. Skeletons must reside in the SYSSATU library. You can specify their names with the NATSKEL parameter, for example:

```
NATSKEL=JSKELMVS ! OS/390 environment  
NATSKEL=JSKELVSE ! VSE/ESA environment  
NATSKEL=JSKELBS2 ! BS2000/OSD environment
```

Messages and Codes

- Messages and Codes in English
- Messages and Codes in German

Messages and Codes in English

The messages are sorted in numerical order by their numbers.

The selection box provides a list of hyperlinks that enables you to jump direct to a specific parameter.

To view a specific message

- Click on a topic in the alphabetical list below:

Messages and Codes
SATST0002 Node not specified.
SATST0003 Invalid System Type.
SATST0004 Invalid Server Type.
SATST0006 Natural Library not specified.
SATST0007 Natural Program not specified.
SATST0008 Natural Security user ID not specified.
SATST0009 Natural Security password not specified.
SATST0010 Skeleton Library not specified.
SATST0011 Skeleton Member not specified.
SATST0012 Subtask Name not specified.
SATST0013 NATPARMS Line exceeded.
SATST0014 NATENV parameter does not fit into one line.
SATST0015 NATENV Number of Lines exceeded.
SATST0016 Skeleton DBID not specified.
SATST0017 Skeleton FNR not specified.
SATST0018 Natural Batch Module not specified.
SATLF0051 Invalid function specified.
SATLF0052 No logical files currently available.
SATLF0053 Bad response from CMMPP call.
SATSS0101 Unknown status.
SATSS0102 Invalid System Type.
SATSS0103 Invalid Server Type.
SATSS0104 Subtask Name not specified.
SATSS0105 Jobname not specified.
SATSS0106 Jobnumber not specified.
SATPM0151 Please specify SAT node.
SATNT0201 Node not specified.
SATNT0202 Subtask name not specified.

SATNT0203 Natural Parameter not specified.
SATSF0251 Invalid SYSF value specified.
SATSJ0301 Skeleton Library not specified.
SATSJ0302 Skeleton Member not specified.
SATSJ0303 Skeleton DBID not specified.
SATSJ0304 Skeleton FNR not specified.
SATSJ0305 Invalid Skeleton.
SATSJ0306 Node not specified.
SATSJ0307 Natural Logon line not specified.
SATSJ0308 Natural Program Line not specified.
SATSJ0309 Invalid System Type.
SATSR0351 Invalid function specified.
SATSR0352 Library not specified.
SATSR0353 Member not specified.
SATSR0354 DBID not specified.
SATSR0355 FNR not specified.
SATSR0356 Name not specified.
SATSR0357 Type not specified.
SATSR0358 Parameter member not found.
SATKY0401 Line contains no key assignment.
SATMG0451 Resulting parm block is too long.
SATOP0501 Invalid System type.
SATOP0502 Node not specified.
SATMM0551 DBID not specified.
SATMM0552 FNR not specified.
SATMM0553 Library not specified.
SATMM0554 Member not specified.
SATMM0555 Name not specified.
SATMM0556 Type not specified.
SATMM0557 At least one block must be specified.
SATSP0601 Satlib not specified.
SATSP0602 Satmem not specified.
SATSP0603 ApplFnr specified but no ApplDbid.
SATSP0604 ApplDbid specified but no ApplFnr.
SATSP0605 No SATSTART entries found.
SATOS0651 Node not specified.

SATOS0652 Product System File (DBID) not specified.
SATOS0653 Product System File (FNR) not specified.
SATPA0701 SatDbid not specified.
SATPA0702 SatFnr not specified.
SATPA0703 Type not specified.
SATPA0704 No keywords specified.
SATPA0705 Library name missing.
SATPA0706 Member name missing.
SATPA0707 Prefix name missing.
SATPA0708 At least one block must be specified.
SATDR0751 Node not specified.
SATDR0752 SATDIR Member not found or no entry for this node.
SATDR0753 Invalid SATSYSF parameter.
SATMS0801 Invalid Message Type - 'N' or 'U' are valid.
SATMS0802 No error code specified.
SATMS0803 Bad response from call to 'USR0120N'.
SATMS0804 SAT LFILE is not set.
SATCP0851 From-member not specified.
SATCP0852 From-library not specified.
SATCP0853 From-DBID not specified.
SATCP0854 From-FNR not specified.
SATCP0855 To-library not specified.
SATCP0856 To-DBID not specified.
SATCP0857 To-FNR not specified.
SATNET901 SATNET Parameter Distribution Protocol.
SATNET902 Please press <ENTER> to start distribution.
SATNET903 Distribution in progress - please wait.
SATNET904 Distribution complete - no errors detected.
SATNET905 Distribution with errors - press enter for protocol.
SATNET906 No members for distribution found.
SATNET907 Duplicate entries in SATDIR found - terminating.
SATEL1001 Library not specified.
SATEL1002 Invalid DBID.
SATEL1003 Invalid FNR.
SATEL1004 Invalid Cipher Code.
SATDL1051 Node not specified.

SATDL1052 Product System File (DBID) not specified.
SATDL1053 Product System File (FNR) not specified.
SATAC1101 Error during REGISTER :1:.
SATAC1102 Abnormal termination during REGISTER :1:.
SATAC1103 Invalid conversation handle in function RECEIVE.
SATAC1104 Neither a handle nor ANY,OLD,NEW specified.
SATAC1105 Maximum number of conversations exceeded.
SATAC1106 Error during RECEIVE :1:.
SATAC1107 Abnormal termination during RECEIVE :1:.
SATAC1108 Error during Deregister :1:.
SATAC1109 Abnormal termination during Deregister :1:.
SATAC1110 Error during END CONVERSATION :1:.
SATAC1111 Abnormal termination during END CONVERSATION :1:.
SATAC1112 SendMessage - ACI invalid conv handle specified.
SATAC1113 SendMessage - ACI Neither conv handle nor NEW specified
SATAC1114 Error during SendMessage - ACI :1:.
SATAC1115 Abnormal termination during SendMessage - ACI :1:.
SATAC1116 Abnormal termination during DeleteMessage - ACI :1:.
SATWY1301 Abnormal termination during WaitForAnyMessage (ACI):1:
SATWY1302 Abnormal termination during WaitForAnyMessage (ESY):1:
SATWN1351 Abnormal termination during WaitForNewMessage (ACI):1:
SATWN1352 Abnormal termination during WaitForNewMessage (ESY):1:
SATWO1401 Abnormal termination during WaitForOldMessage (ACI):1:
SATWO1402 Abnormal termination during WaitForOldMessage (ESY):1:
SATWS1451 Abnormal termination during WaitForSpeMessage (ACI):1:
SATWS1452 Abnormal termination during WaitForSpeMessage (ESY):1:
SATPY1501 Abnormal termination during PollForAnyMessage (ACI):1:
SATPY1502 Abnormal termination during PollForAnyMessage (ESY):1:
SATPN1551 Abnormal termination during PollForNewMessage (ACI):1:
SATPN1552 Abnormal termination during PollForNewMessage (ESY):1:
SATPO1601 Abnormal termination during PollForOldMessage (ACI):1:
SATPO1602 Abnormal termination during PollForOldMessage (ESY):1:
SATPS1651 Abnormal termination during PollForSpeMessage (ACI):1:
SATPS1652 Abnormal termination during PollForSpeMessage (ESY):1:
SATEC1701 Invalid conversation handle specified.
SATEC1702 Conversation handle missing.

SATEC1703 Abnormal termination during EndConversation - ACI :1:
SATSY1751 Send reply not possible.
SATSY1752 Conversation handle missing.
SATSY1753 Abnormal termination during SendReply (ACI):1:.
SATFM1801 Abnormal termination during ForwardMessage (ACI):1:.
SATFM1802 Abnormal termination during ForwardMessage (ESY):1:.
SATSQ1851 Abnormal termination during SendRequest (ACI):1:.
SATSQ1852 Abnormal termination during SendRequest (ESY):1:.
SATSI1901 Server name not specified.
SATSI1902 Partner type not specified.
SATAD2001 Invalid ISN Lower Limit value specified.
SATAD2002 Invalid ISN Quantity value specified.
SATAD2003 Invalid number of ISNs specified.
SATAD2004 Invalid number of records in hold specified.
SATAD2005 Invalid CID value specified.
SATAD2006 Invalid time for execution of Sx specified.
SATRN2051 Library not specified.
SATRN2052 Member not specified.
SATRN2053 Member not found.

Messages and Codes in German

The messages are sorted in numerical order by their numbers.

The selection box provides a list of hyperlinks that enables you to jump direct to a specific parameter.

To view a specific message

- Click on a topic in the alphabetical list below:

Messages and Codes
SATST0002 Node nicht angegeben.
SATST0003 Ungültiger Systemtyp.
SATST0004 Ungültiger Servertyp.
SATST0006 Natural Bibliothek nicht angegeben.
SATST0007 Natural Programm nicht angegeben.
SATST0008 Natural Security Benutzer-ID nicht angegeben.
SATST0009 Natural Security Passwort nicht angegeben.
SATST0010 Skelett Bibliothek nicht angegeben.
SATST0011 Skelett Member nicht angegeben.
SATST0012 Subtask Name nicht angegeben.
SATST0013 NATPARMS Zeile zu gross.
SATST0014 NATENV Parameter passt nicht in eine Zeile.
SATST0015 NATENV Zu viele Zeilen.
SATST0016 Skelett DBID nicht angegeben.
SATST0017 Skelett FNR nicht angegeben.
SATST0018 Natural Batch Modul nicht angegeben.
SATLF0051 Ungültige Funktion angegeben.
SATLF0052 Zur Zeit keine logischen Files frei.
SATLF0053 Fehler von CMMPP call.
SATSS0101 Status unbekannt.
SATSS0102 Ungültiger Systemtyp.
SATSS0103 Ungültiger Servertyp.
SATSS0104 Subtask Name nicht angegeben.
SATSS0105 Jobname nicht angegeben.
SATSS0106 Jobnummer nicht angegeben.
SATPM0151 Bitte SAT node angeben.
SATNT0201 Node nicht angegeben.
SATNT0202 Subtask name nicht angegeben.

SATNT0203 Natural Parameter nicht angegeben.
SATSF0251 Ungültiger SYSF Wert angegeben.
SATSJ0301 Skelett Bibliothek nicht angegeben.
SATSJ0302 Skelett Member nicht angegeben.
SATSJ0303 Skelett DBID nicht angegeben.
SATSJ0304 Skelett FNR nicht angegeben.
SATSJ0305 Ungültiges Skelett.
SATSJ0306 Node nicht angegeben.
SATSJ0307 Natural Logon Zeile nicht angegeben.
SATSJ0308 Natural Programm Zeile nicht angegeben.
SATSJ0309 Ungültiger Systemtyp.
SATSR0351 Ungültige Funktion angegeben.
SATSR0352 Bibliothek nicht angegeben.
SATSR0353 Member nicht angegeben.
SATSR0354 DBID nicht angegeben.
SATSR0355 FNR nicht angegeben.
SATSR0356 Name nicht angegeben.
SATSR0357 Typ nicht angegeben.
SATSR0358 Parameter Member nicht gefunden.
SATKY0401 Zeile enthält keine Schlüsselzuweisung.
SATMG0451 Resultierender parm block ist zu lang.
SATOP0501 Falscher Systemtyp.
SATOP0502 Node nicht angegeben.
SATMM0551 DBID nicht angegeben.
SATMM0552 FNR nicht angegeben.
SATMM0553 Bibliothek nicht angegeben.
SATMM0554 Member nicht angegeben.
SATMM0555 Name nicht angegeben.
SATMM0556 Typ nicht angegeben.
SATMM0557 Mindestens ein Block muß angegeben sein.
SATSP0601 Satlib nicht angegeben.
SATSP0602 Satmem nicht angegeben.
SATSP0603 ApplFnr angegeben jedoch ohne ApplDbid.
SATSP0604 ApplDbid angegeben, jedoch keine ApplFnr.
SATSP0605 Keine SATSTART Anweisungen gefunden.
SATOS0651 Knoten nicht angegeben.

SATOS0652 Produktdatei (DBID) nicht angegeben.
SATOS0653 Produktdatei (FNR) nicht angegeben.
SATPA0701 SatDbid nicht angegeben.
SATPA0702 SatFnr nicht angegeben.
SATPA0703 Typ nicht angegeben.
SATPA0704 Keine Schlüsselworte angegeben.
SATPA0705 Bibliotheksname fehlt.
SATPA0706 Membername fehlt.
SATPA0707 Präfix fehlt.
SATPA0708 Mindestens ein Block muß angegeben sein.
SATDR0751 Knoten nicht angegeben.
SATDR0752 SATDIR nicht gefunden oder kein Eintrag für den Knoten.
SATDR0753 Falsche Angabe im SATSYSF Parameter.
SATMS0801 Ungültiger Meldungstyp - ''N'' oder ''U'' sind gültig.
SATMS0802 Fehlercode nicht angegeben.
SATMS0803 Fehler beim Aufruf von 'USR0120N'.
SATMS0804 SAT LFILE ist nicht gesetzt.
SATCP0851 From-member nicht angegeben.
SATCP0852 From-library nicht angegeben.
SATCP0853 From-DBID nicht angegeben.
SATCP0854 From-FNR nicht angegeben.
SATCP0855 To-library nicht angegeben.
SATCP0856 To-DBID nicht angegeben.
SATCP0857 To-FNR nicht angegeben.
SATNET901 Protokoll SATNET Parameter-Verteilung
SATNET902 Bitte <FREIGABE> drücken um Verteilung zu starten.
SATNET903 Verteilung läuft - bitte warten.
SATNET904 Verteilung beendet - keine Fehler aufgetreten.
SATNET905 Verteilung fehlerhaft - <FREIGABE> für Protokoll.
SATNET906 Keine Member zur Verteilung gefunden.
SATNET907 Doppelte Einträge in SATDIR - keine Verteilung.
SATEL1001 Natural-Bibliothek nicht angegeben.
SATEL1003 Falsche DBID.
SATEL1003 Falsche FNR.
SATEL1004 Angabe im Chiffrierschlüssel nicht numerisch.
SATDL1051 Knoten nicht angegeben.

SATDL1052 Produktdatei (DBID) nicht angegeben.
SATDL1053 Produktdatei (FNR) nicht angegeben.
SATAC1101 Fehler während der Funktion REGISTER :1:.
SATAC1102 Programmabbruch während der Funktion REGISTER :1:.
SATAC1103 Unbekannte Konversation in der Funktion RECEIVE.
SATAC1104 Keine gültige Konversation noch ANY,OLD, NEW angegeben
SATAC1105 Maximale Anzahl von Verbindungen überschritten.
SATAC1106 Fehler während der Funktion RECEIVE :1:.
SATAC1107 Programmabbruch bei der Funktion RECEIVE :1:.
SATAC1108 Fehler während der Funktion Deregister :1:.
SATAC1109 Programmabbruch bei der Funktion Deregister :1:.
SATAC1110 Fehler während der Funktion END CONVERSATION :1:.
SATAC1111 Programmabbruch bei der Funktion END CONVERSATION :1:.
SATAC1112 SendMessage - ACI unbekannt Konversation angegeben.
SATAC1113 SendMessage - ACI weder gült. Konv. noch NEW angegeben
SATAC1114 Fehler während der Funktion SendMessage - ACI :1:.
SATAC1115 Programmabbruch bei der Funktion SendMessage - ACI :1:.
SATAC1116 Programmabbruch bei Funktion DeleteMessage - ACI :1:.
SATCOM.. Meldungen 1200 - 1249 reserviert für SATCOM.
SATWY1300 Meldungen 1300 - 1349 reserviert für SATWY.
SATWY1301 Programmabbruch bei WaitForAnyMessage (ACI):1:.
SATWY1302 Programmabbruch bei WaitForAnyMessage (ESY):1:.
SATWN1302 Programmabbruch bei WaitForNewMessage (ESY):1:.
SATWN1350 Meldungen 1350 - 1399 reserviert für SATWN.
SATWN1351 Programmabbruch bei WaitForNewMessage (ACI):1:.
SATWO1400 Meldungen 1400 - 1449 reserviert für SATWO.
SATWO1401 Programmabbruch bei WaitForOldMessage (ACT):1:.
SATWO1402 Programmabbruch bei WaitForOldMessage (ESY):1:.
SATWS1450 Meldungen 1450 - 1499 reserviert für SATWS.
SATWS1451 Programmabbruch bei WaitForSpeMessage (ACI):1:.
SATWS1452 Programmabbruch bei WaitForSpeMessage (ESY):1:.
SATPY1500 Meldungen 1500 - 1549 reserviert für SATPY.
SATPY1501 Programmabbruch bei PollForAnyMessage (ACI):1:.
SATPY1502 Programmabbruch bei PollForAnyMessage (ESY):1:.
SATPN1550 Meldungen 1550 - 1599 reserviert für SATPN.
SATPN1551 Programmabbruch bei PollForNewMessage (ACI):1:.

SATPN1552 Programmabbruch bei PollForNewMessage (ESY):1:.
SATPO1600 Meldungen 1600 - 1649 reserviert für SATPO.
SATPO1601 Programmabbruch bei PollForOldMessage (ACI):1:.
SATPO1602 Programmabbruch bei PollForOldMessage (ESY):1:.
SATPS1650 Meldungen 1650 - 1699 reserviert für SATPS.
SATPS1651 Programmabbruch bei PollForSpeMessage (ACI):1:.
SATPS1652 Programmabbruch bei PollForSpeMessage (ESY):1:.
SATEC1700 Meldungen 1700 - 1749 reserviert für SATEC:
SATEC1701 Unbekannte Konversation angegeben.
SATEC1702 Fehlende Konversation.
SATEC1703 Programmabbruch bei EndConversation - ACI :1:.
SATSY1750 Meldungen 1750 - 1799 reserviert für SATSY.
SATSY1751 Send-Reply nicht möglich.
SATSY1752 Fehlende Konversation.
SATSY1753 Programmabbruch bei der Funktion SendReply (ACI):1:.
SATSY1754 Programmabbruch bei der Funktion SendReply (ESY):1:
SATFM1800 Meldungen 1800 - 1849 reserviert für SATFM.
SATFM1801 Programmabbruch bei ForwardMessage (ACI):1:.
SATFM1802 Programmabbruch bei ForwardMessage (ESY):1:.
SATSQ1850 Meldungen 1850 - 1899 reserviert für SATSQ.
SATSQ1851 Programmabbruch bei der Funktion SendRequest (ACI):1:.
SATSQ1852 Programmabbruch bei der Funktion SendRequest (ESY):1:.
SATSI1901 Server-Name nicht angegeben.
SATSI1902 Partner-Typ nicht angegeben.
SATAD2001 Falsches 'ISN Lower Limit' angegeben.
SATAD2002 Falsche 'ISN Quantity'-Angabe.
SATAD2003 Falsche 'Number of ISNs'-Angabe.
SATAD2004 Falsche 'Number of Records in hold'-Angabe.
SATAD2005 Falscher CID-Wert.
SATAD2006 Falsche Ausführungszeit für Sx.
SATRN2051 Library nicht angegeben.
SATRN2052 Member nicht angegeben.
SATRN2053 Member nicht gefunden.