

# Installing the Entire Systems Server Interface

Installing the Entire Systems Server Interface (ESX) is required if the product Entire System Server or Natural ISPF is to be used.

This document covers the following topics:

- Standard Installation (Recommended)

If you want to use the recommend standard value settings in the modules ESYNODTB and NATPNIP (used by the products Entire System Server and Natural ISPF, then you can proceed with Linking the ESXNUC Module.

- Customized Installation

If you do **not** want to use the recommend standard value settings, you may first edit module NATPNIP in the Natural source library and then relink the ESXNUC module.

## Customized Installation

For a customized installation, you may edit the module NATPNIP in the Natural source library.

The content of module NATPNIP is:

```
NAMVIEWP BUFLLEN=8192,NUMREQ=5,MAXCBL=3000,MAXEDL=3000,EXTUSER=INIT-USER
```

The default values are included. The NATPNIP parameters are explained below:

BUFLLEN	Length of all Adabas buffers in bytes.
NUMREQ	Number of possible nested FIND loops in Natural calling Entire System Server.
MAXCBL	Complex FIND buffer length.
MAXEDL	Editor session buffer length.
EXTUSER	External USER-ID which will be passed to Entire System Server for security checks.

Possible values for EXTUSER are:

EXTUSER=INIT-USER	(recommended for OS/390 platforms) The value of the Natural variable *INIT-USER is transferred via Entire System Server to an external security system like RACF, ACF2, TOP-SECRET and all calls to security restricted resources are handled under this user ID.
EXTUSER=USER	(recommended for UTM on BS2000/OSD) Similar processing using Natural variable *USER.
EXTUSER=ADDRESS-SPACE	(recommended for TIAM and Batch on BS2000/OSD) The security description of this Address-Space is used for security evaluation.

You may also edit module ESYNODTB in the Natural source library which contains the following default values:

```
NAMXNOD ID=148,NAME=PRODUCTION-1
  NAMXNOD ID=149,NAME=PRODUCTION-2, LAST=Y
  END
```

**When do I need to change these values?**

Normally, calls to Entire System Server from NATURAL are handled via a NODE parameter like:

```
FIND ACTIVE-JOBS WITH JOB-NAME = 'ADA*' AND NODE = 148
```

where NODE contains a numeric value, but no character-oriented values.

Programmers need to know a numeric value pointing to a real Entire System Server. Using the value NODE-NAME, they may code:

```
FIND ACTIVE-JOBS WITH JOB-NAME = 'ADA*' AND NODE-NAME = 'DAEF'
```

where *DAEF* is the logical name of the production Entire System Server.

The table ESYNODTB defines these mappings and contains the following parameters:

ID	Entire System Server Node number (also known as DBID).
NAME	Entire System Server Node Name.
LAST	Indicator for last entry in table.

## Assembling the Parameter Modules for the ESX Component

The jobs mentioned below can be found in the library NAT $nnn$ .JOBS.

### Without Entire System Server

If the Entire System Server is not installed, this means that Natural ISPF is used as INCORE database only.

#### Under OS/390 and VSE

Link the parameter module NATPNIP, using Job I055, Step 1106.  
In this case, the module ESYNODTB is not required.

#### Under BS2000/OSD

Link the parameter module NATPNIU (for UTM) or NATPNIT (for TIAM/Batch), using Job I055, Steps 1106 and 1108.  
In this case, the module ESYNODTB is not required.

### With Entire System Server

#### Under OS/390 and VSE

Assemble and link the modules using Job I055, Step 1106 (NATPNIP) and, optionally, 1107 (ESYNODTB).

#### Under BS2000/OSD - UTM Environments

Assemble and link the modules using Job I055, Step 1108 (ANATPNIU) and, optionally, 1107 (AESYNDTB).

ANATPNIU must be assembled with "NAMVIEWP EXTUSER=USER" in order to use the Natural Security user ID as user ID for ESY calls (if no NATPROC-LOGON is issued).

#### Under BS2000/OSD - TIAM and Batch Environments

Assemble and link the modules using Job I055, Step 1106 (ANATPNIT) and, optionally, 1107 (AESYNODTB).

NATPNIT must be assembled with "NAMVIEWP EXTUSER=ADDRESS-SPACE". The LOGON user ID will be used as ESY user ID if no NATPROC-LOGON has been issued.

Proceed with Linking the ESXNUC Module.

## Linking the ESXNUC Module

### Under OS/390

You can either link all modules to the shared nucleus or link them all to the front-end.

Include the following instructions in your link job:

INCLUDE NATLIB(NATPNIP)	Entire System Server Interface parameters
INCLUDE NATLIB(ESXNUC)	ESX nucleus
INCLUDE NATLIB(NATPSNGL)	Optional, allow use of Entire System Server in single-user mode
INCLUDE NATLIB(ESYNODTB)	Optional, node table

### Under VSE

You can either link all modules to the shared nucleus or link them all to the front-end.

Include the following instructions in your link job:

INCLUDE NATPNIP	Entire System Server Interface parameters.
INCLUDE ESXNUC	ESX nucleus.
INCLUDE NATPSNGL	Optional, allow use of Entire System Server in single-user mode.
INCLUDE ESYNODTB	Optional, node table.

### Under BS2000/OSD

All modules have to be linked to the front-end part of Natural to handle different configuration settings.

Include the following instructions in your link job:

INCLUDE NATPNIP, NATnnn.MOD	Entire System Server Interface parameters.
INCLUDE ESXNUC, NATnnn.MOD	ESX nucleus.
INCLUDE NATPRBSU, NATnnn.MOD	BS2000/OSD service module.
INCLUDE NATPSNGL, NATnnn.MOD	Optional, allow use of Entire System Server in single-user mode (only possible under TIAM or in batch mode).
INCLUDE ESYNODTB, NATnnn.MOD	Optional, node table.

### Under VM/CMS

Modify the variable LOADLIST in NAT\$LOAD EXEC to include the following modules:

<b>Library</b>	<b>Module</b>	<b>Explanation</b>
ISPLIB	ISPURT1	Utility.

Modules required from Entire System Server Interface:

<b>Library</b>	<b>Module</b>	<b>Explanation</b>
NATLIB	NATPNIP	Entire System Server Interface parameters.
NATLIB	ESXNUC	ESX nucleus.
NATLIB	ESYNODTB	Optional, node table.

Proceed as described in the VM/CMS installation procedure under the heading "Generate a Natural Module".