

Natural Engineer  
Version 4.3.1  
Administration Guide  
for Mainframes

**Manual Order Number: NEE431-040MFR**

This document applies to Natural Engineer version 4.3.1 and to all subsequent releases.

Specifications contained herein are subject to change, and these changes will be reported in subsequent revisions or editions.

Readers' comments are welcomed. Comments may be addressed to the Documentation Department at the address on the back cover. Internet users may send comments to the following e-mail address:

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# TABLE OF CONTENTS

<b>ABOUT THIS MANUAL</b> .....	<b>1</b>
Purpose of this manual .....	1
Target Audience .....	1
Typographical Conventions used in this manual .....	2
How this manual is organized .....	3
Terminology .....	4
Related Literature .....	7
<b>1. ADMINISTRATION OPTIONS</b> .....	<b>9</b>
Chapter Overview.....	9
Default Text Logic Members .....	10
Global Standards .....	16
<b>2. CONFIGURATION</b> .....	<b>29</b>
Chapter Overview.....	29
Initialization Settings.....	30
Environment Sizing.....	37
Transferring Repository.....	39
Supplied Impact Search Criteria.....	51
Limits .....	54
<b>INDEX</b> .....	<b>57</b>



# ABOUT THIS MANUAL

## Purpose of this manual

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This manual contains the various administration topics for Natural Engineer version 4.3.1.

It describes the Administration functions available from the Options menu within Natural Engineer. These include:

- The default Text Logic Members (TLM) used during the modification process.
- The default Global Standards that are to be applied during Impact Analysis to check applications are being maintained to site standards.

There are several administration functions required to run Natural Engineer, which are not directly administered from within Natural Engineer itself. These and their methods are also described:

- The Initialization settings within the INI file which are used to control the various processes within Natural Engineer.
- Environment sizing options.
- Transferring a Natural Engineer Repository from the mainframe environment to the PC environment.
- Supplied Impact Search Criteria sets.

## Target Audience

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The target audience for this manual is intended to be any User of Natural Engineer 4.3.1 as well as Systems Administrators responsible for installing and configuring the product.

## Typographical Conventions used in this manual

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The following conventions are used throughout this manual:

<b>UPPERCASE TIMES</b>	Commands, statements, names of programs and utilities referred to in text paragraphs appear in normal (Times) uppercase.
<b>UPPERCASE BOLD COURIER</b>	In illustrations or examples of commands, items in uppercase bold courier must be typed in as they appear.
< >	Items in angled brackets are placeholders for user-supplied information. For example, if asked to enter <file number>, you must type the number of the required file.
<u>Underlined</u>	Underlined parts of text are hyperlinks to other parts within the online source manual. This manual was written in MS-Word 97 using the "hyperlink" feature.

The following symbols are used for instructions:

⇒	Marks the beginning of an instruction set.
□	Indicates that the instruction set consists of a single step.
1.	Indicates the first of a number of steps.

## How this manual is organized

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This manual is organized to reflect all the Administration options of Natural Engineer version 4.3.1 in the following chapters:

<b>Chapter</b>	<b>Contents</b>
1	Describes the various Administration functions, which control various processes within Natural Engineer.
2	Describes various configuration administration topics, which are not directly administered from within Natural Engineer itself.

## Terminology

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It is assumed that you are familiar with general Natural and mainframe terminology, as well as the terms and concepts relating to MS-Windows environments. This section explains some terms that are specific to the Natural Engineer product.

### **Analysis**

The Analysis process of Natural Engineer searches application data within the Natural Engineer Repository, according to specified Search Criteria and generates reports on the search results.

### **Application**

An Application is a library or group of related libraries, which define a complete Application. In Natural Engineer, the Application can have a one-to-one relationship with a single library of the same name, or a library of a different name, as well as related steplibs. The Application refers to all the source code from these libraries, which Natural Engineer loads into the Repository.

### **Browser**

An Internet Browser such as Microsoft Internet Explorer™ or Netscape™.

### **Category**

Categories in Natural Engineer specify whether and how a Modification is applied to the Natural code. Valid categories are: Automatic change, Manual change, Reject the default Modification, No change to the data item, and the data item is in Generated Code.

A category is further broken down according to type of change (for example: Keyword, Literal, Data Item, Database Access, Definition).

### **Consistency**

An option in the Analysis process that causes Natural Engineer to trace an Impact through the code, using left and right argument resolution to identify further code impacted by the code found.

## **Environment**

The Environment process is the means by which Natural Engineer generates a structured view of the application code in the Natural Engineer Repository. This provides application analysis reports and inventory information on the application and is used as the basis for Impact Analysis.

## **Exception**

An Exception is an Item identified as impacted that does not require a Modification. Where there are a few similar Exception Items, they can be treated as Exceptions, and rejected in the Modification review process. Where there are many similar (therefore not Exceptions), consideration should be given to changing the Search Criteria so they are not identified as impacted in the first place.

## **Generated Code**

This is code which has been generated by a Natural code generator, such as Construct, and which is not normally modified directly in the Natural editor.

## **Impact**

An Impact is an instance of a Natural code Item; e.g., data item or statement (a “hit” scored by the Analysis process) that matches the defined Search Criteria used in the Analysis process.

## **Iteration**

An Iteration is one examination cycle of a field identified according to the specified Search Criteria. For example, one Iteration is reading the field right to left. Multiple Iterations are performed when the option of ‘Consistency’ or Multi Search is requested for Analysis, and Natural Engineer performs as many Iterations as necessary to exhaust all possibilities of expressing and tracing the field, and can be limited by a setting in the NATENG.INI file.

## **Library**

A single library of source code, which exists in the Natural system file.

## **Natural Engineer Administration Guide**

### **Modification**

A Modification is a change suggested or made to an object or data item resulting in the required compliance of that object or data item. Modifications in Natural Engineer are classified according to Category and Type.

### **Presentation Split Process**

The Presentation Split Process is a sub-function of the Object Builder function that removes screen I/O statements from current application objects and places them in generated subprograms.

### **Soft Link**

A Soft Link is where a link between two objects has been defined using an alphanumeric variable rather than a literal constant.

### **Technical Split Process**

The Technical Split Process is a sub-function of the Object Builder function that results in the encapsulation of each database access within the application, into a sub-program so that the application is separated into 'presentation and logic' and 'database access'.

### **Type**

The Type of Modification available, for example: Data Item, Keyword and Literal.

### **TLM**

Text Logic Members are used to contain the code required to support inclusion of common code into the application. An example of this is the code to include into an application before updating a database.

## Related Literature

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The complete set of Natural Engineer manuals consists of:

**1. Natural Engineer Concepts and Facilities (NEE431-006ALL)**

The Concepts and Facilities manual describes the many application systems problems and solutions offered by Natural Engineer, providing some guidelines and usage that can be applied to Natural applications.

**2. Natural Engineer Release Notes (NEE431-008ALL)**

The Release Notes describe all the information relating to the new features, upgrades to existing functions and documentation updates that have been applied to Natural Engineer 4.3.1.

**3. Natural Engineer Installation Guide (NEE431-010ALL)**

The Installation Guide provides information on how to install Natural Engineer on both PC and mainframe platforms.

**4. Natural Engineer Administration Guide (NEE431-040WIN)**

**Natural Engineer Administration Guide (NEE431-040MFR)**

The Administration Guide provides information on all the various control settings available to control the usage of the different functions within Natural Engineer.

**5. Natural Engineer Application Management (NEE431-020WIN)**

**Natural Engineer Application Management (NEE431-020MFR)**

The Application Management manual describes all the functions required to add Natural applications into the Repository.

**6. Natural Engineer Application Documentation (NEE431-022WIN)**

**Natural Engineer Application Documentation (NEE431-022MFR)**

The Application Documentation manual describes all the available functions to document a Natural application within the Repository. These functions will help enhance / supplement any existing systems documentation such as BSD / CSD / Specifications etc.

## **Natural Engineer Administration Guide**

### **7. Natural Engineer Application Analysis and Modification (NEE431-023WIN)**

#### **Natural Engineer Application Analysis and Modification (NEE431-023MFR)**

The Application Analysis and Modification manual describes all the available functions to carry out analysis of Natural applications; including basic keyword searches. The modification process is described and detailed to show how it can be applied to modify single selected objects within a Natural application, or the entire Natural application in one single execution.

### **8. Natural Engineer Application Restructuring (NEE431-024WIN)**

#### **Natural Engineer Application Restructuring (NEE431-024MFR)**

The Application Restructuring manual describes the analysis and modification functionality required to carryout some of the more sophisticated functions such as Object Builder.

### **9. Natural Engineer Utilities (NEE431-080WIN)**

#### **Natural Engineer Utilities (NEE431-080MFR)**

The Utilities manual describes all the available utilities found within Natural Engineer and, when and how they should be used.

### **10. Natural Engineer Reporting (NEE431-025ALL)**

The Reporting manual describes each of the reports available in detail, providing report layouts, how to trigger the report and when the report data becomes available. The various report-producing mediums within Natural Engineer are also described.

### **11. Natural Engineer Batch Processing [Mainframes] (NEE431-026MFR)**

The Batch Processing manual describes the various batch jobs (JCL) and their functionality.

# ADMINISTRATION OPTIONS

## Chapter Overview

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There are several administration options available within Natural Engineer which allow Users or Systems Administrators, the facility to fine tune Natural Engineer to their site requirements, thus ensuring any use of the product will conform to a common set standard.

These administration options can be found using the Options menu, which can be accessed using option 'O' from the main Natural Engineer menu.

There are two options available:

### 1. **Default Text Logic Members**

Text Logic Members can be used during the modification process and allow user defined processing logic to be included as part of the modification.

### 2. **Global Standards**

Global Standards are used to determine if applications conform to acceptable Natural application standards. Global standards can be defined and then applied to each application on the Repository.

## Default Text Logic Members

---

Site wide Text Logic Members (TLMs) may be specified using the Maintain Default Text Logic Members option from the Options menu.

TLMs are Natural objects with an object type of Text, containing the required processing code to be used during modification. They need to exist on either the modification library specified in the application preferences or, can be held on the Natural SYSTEM library.

After the TLMs have been saved, they need to be defined using the Default Text Logic Members option in order that Natural Engineer can recognize them and use them during the modification process.

*Note: It is possible to override the default settings using the Modification Preferences option from the Modification menu. This will override the TLMs for the current selected application only.*

*For more information on the Modification Preferences option refer to the Natural Engineer Application Analysis & Modification for Mainframes manual.*

## Supplied Default Text Logic Members

Natural Engineer comes supplied with two Default Text Logic Member (TLM) objects that are used with the Nat 2.2 to Nat 3.1 conversion:

1. N31R05T1
2. N31R05T2

*Note: These objects can be found on the Natural Engineer SYSNEE library and will need to be moved to either SYSTEM or modification libraries as required. If moved to the SYSTEM library, they will be available to all modification libraries.*

### N31R05T1

This TLM is used by the Natural 2.2 to 3.1 conversion process for the SAG05 remedy 1.

```
0010 /* -----  
0020 /* Added for Natural 2.2 to 3.1 Conversion: SAG05 Remedy 1  
0030 /* Updated by: XX-USER Dated: XX-DATE Time: XX-TIME using NEE  
0040 /* -----  
0050 IGNORE
```

### N31R05T2

This TLM is used by the Natural 2.2 to 3.1 conversion process for the SAG05 remedy 2.

```
0010 /* -----  
0020 /* Added for Natural 2.2 to 3.1 Conversion: SAG05 Remedy 2  
0030 /* Updated by: XX-USER Dated: XX-DATE Time: XX-TIME using NEE  
0040 /* -----  
0050 ASSIGN XX-LOOPVAR = XX-MAXVAL
```

## Default Text Logic Members Screen

All the specifications for the Default TLMs are defined using the Default Text Logic Member screen. This is accessed by selecting option 'T' (Maintain Default Text Logic Members) from the Options Menu screen.



SCREEN ITEMS	DESCRIPTION
<b>TLM Type</b>	Specify what type of TLM is defined. Valid values are:
<b>START</b>	A TLM to be inserted at the Start of an Object. This is after the definition of the data items in the object.
<b>DATA</b>	A TLM that provides data items to be included in an object that has TLMs inserted.
<b>MISC</b>	A TLM that is placed at the end of the object that can contain processing, for example including common routines.
<b>COMMENT</b>	To be inserted at the start of the object to explain another TLM inserted in the object. The following variables can be specified and will be replaced at remedy execution. <ul style="list-style-type: none"> <li>• XX-DATE, which will be translated into DD/MM/YYYY</li> <li>• XX-TIME, which will be translated into HH:MM:SS</li> <li>• XX-USER, which will contain the user-id of the person who, executed modification for the object.</li> </ul>
<b>CMPT COMM</b>	The Component comment inserted at the start of the new component subprogram that has been created.
<b>CMPT DATA</b>	Component parameter data inserted as the last parameter passed in the subprogram. The TLM data must be specifically coded in this routine and must contain the following definition first. <p>01 #EXTRA-PDA</p> <p>If a component TLM is required to pass a data item #RESPONSE between the new subprogram and the object calling it then the following is the structure for this TLM:</p> <p>01 #EXTRA-PDA 02 #RESPONSE (A1)</p>

# 1

## Natural Engineer Administration Guide

SCREEN ITEMS	DESCRIPTION
<b>SAG05 R1</b>	<p>This is the default modification for empty FOR and REPEAT statement blocks. The TLM will insert the keyword IGNORE into the empty block. For Example:</p> <pre>1020 REPEAT 1030 IGNORE 1040 END-REPEAT</pre> <p><i>Note: Used in Nat 2.2 to Nat 3.1 conversion.</i></p>
<b>SAG05 R2</b>	<p>This TLM type can be used as an alternative to the default SAG05R1. This will comment out the empty statement block but then insert a line of code to set the applicable variable to the maximum value. For Example:</p> <p>FOR #A = 1 TO 10, will insert MOVE 10 TO #A.</p> <p>This will only be applied to a FOR loop block, a REPEAT loop block will only get commented out.</p> <p>Additionally, if this TLM type is selected in the preference screen, then prior to modification the update field button will need to be used on the Modification Element Maintenance screen to ensure the correct TLM is applied during modification.</p> <p><i>Note: Used in Nat 2.2 to Nat 3.1 conversion.</i></p>
<b>Format</b>	The format of the data item the TLM relates to. (Not used at present.)
<b>Length</b>	The length of the data item the TLM relates to. (Not used at present.)
<b>Mode</b>	Programming mode to which the TLM applies. Valid values are: <ul style="list-style-type: none"> <li><b>Structured</b>      Structured mode</li> <li><b>Reporting</b>      Reporting mode</li> </ul>
<b>Edit Mask</b>	The specific edit mask for the data item that the TLM relates to. (Not used at present.)
<b>Logic Member</b>	Name of the TLM to be used.

<b>PFKEYS</b>	<b>DESCRIPTION</b>
<b>PF1</b>	Activates the help function.
<b>PF3</b>	Exit from the current function and return to previous screen.
<b>PF5</b>	Saves the specified default TLM details.
<b>PF7</b>	Displays previous page.
<b>PF8</b>	Displays next page.
<b>PF10</b>	Displays the options available to view alternate TLM settings. <i>Note: For the Default TLM option only SiteWide TLM's are viewable.</i>
<b>PF12</b>	Returns to the Natural Engineer Main Menu.

## Global Standards

---

The Global Standards option allows for the specification of application standards that are to be used as the default settings within Natural Engineer. Global Standards are used as a criteria subset of Impact Analysis when using the search keyword APPLICATION STANDARDS and will report on how an application complies to acceptable Natural application standards.

Using Global Standards, it is possible to specify the Natural application standards employed at your site, or if none exist, specify the standards that you wish to apply and adhere to. Then by loading each of your applications into the Repository and running impact analysis using the search criteria Application Standards, it is possible to report on each application's compliance.

*Note: It is possible to override the default settings using the Application Standards option from the Application menu. This will override the Global Standards for the current selected application only.*

*For more information on the Application Standards option refer to Chapter 1 in the Natural Engineer Application Analysis & Modification for Mainframes manual.*

## Global Standards Definition Screen

All the specifications for Global Standards are defined using the Global Standards Definition screen.

This is accessed by selecting option 'S' (Global Standards) from the Options Menu screen.

A 'Y' in the selection column next to each option indicates each standard is acceptable. If a selection column is blank then that standard is not acceptable.

The following Figure 1-2 illustrates the Global Standards Definition screen.

```

- Application Standards - Application: HOSPITAL

Data Type Usage                                Data Item Specification and Usage
Y  Alphanumeric                                ___ Data Item Name Length
Y  Binary                                       ___ Local Data Item Start Character
Y  Attribute Control                           ___ Use Database Qualifiers
-  Date                                         ___ Use Labels
-  Floating Point                              ___ Allow Dynamic Variables
-  Integer                                      ___ Allow AIVs
-  Logical                                       ___ Use Reserved Words as Data Items
-  Numeric (Unpacked)                          ___ Use of Hexidecimal
-  Packed Numeric
-  Time

Environment                                     Copycode
-  Use Full Statement Syntax                   ___ Allow Copycode
-  Use Message File                            ___ Minimum Usage
-  Allow Rules in Maps                         Object comments
-  Structured Mode                             ___ Description
Y  Reporting Mode                             ___ to ___ Percentage of Lines
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10---PF11---PF12---
      Help           Exit           Save           Pref Type Opts Main

```

Figure 1-2 Global Standards Definition screen

SCREEN ITEMS	DESCRIPTION
<b>Data Type Usage</b>	<p>Identifies Data Type usage. If data items are not checked then they will be reported as non-standard. Data Types available are:</p> <ul style="list-style-type: none"> <li>▪ <b>Alphanumeric</b></li> <li>▪ <b>Binary</b></li> <li>▪ <b>Attribute Control</b></li> <li>▪ <b>Date</b></li> <li>▪ <b>Floating Point</b></li> <li>▪ <b>Integer</b></li> <li>▪ <b>Logical</b></li> <li>▪ <b>Numeric (Unpacked)</b></li> <li>▪ <b>Packed Numeric</b></li> <li>▪ <b>Time</b></li> </ul>
<b>Environment</b>	<p>Identifies various environmental type options. Environment options are:</p> <p><b>Use Full Statement Syntax</b> Standards allow for full syntax statements to be used, rather than partial syntax. (Not currently available.)</p> <p><b>Use Message File</b> Standards allow for specifying the use of a message file for messages, rather than messages embedded in the objects.</p> <p><b>Allow Rules in Maps</b> Standards allow for the use of rules in maps.</p> <p><b>Structured Mode</b> If Structured Mode is selected, then the Application standard is to allow Structured Mode objects.</p> <p><b>Reporting Mode</b> If Reporting Mode is selected, then the Application standard is to allow Reporting Mode objects.</p>
<b>Data Item Specification and Usage</b>	<p>Identifies standards specific to Data Items. Data Item Specification and Usage options are:</p> <p><b>Data Item Name Length</b> A number from 1 to 32 can be selected. Natural Engineer will identify data items that exceed this number.</p> <p><b>Local Data Item Start Character</b> The first character required for locally defined data items.</p> <p><b>Use Database Qualifiers</b> Database data items must have the associated database qualifier name.</p> <p><b>Use Labels</b> Statements that can have labels, must use labels.</p>

SCREEN ITEMS	DESCRIPTION
<b>Copycode</b>	<p><b>Allow Dynamic Variables</b> Dynamic variables, such as &amp;variables are permitted by standards.</p>
	<p><b>Allow AIVs</b> Application Independent Variables are permitted by the standards.</p>
	<p><b>Use Reserved Words as Data Items</b> If selected, data item names may also be reserved words.</p>
	<p><b>Use of Hexadecimal</b> If selected, hexadecimal code is permitted by standards.</p>
	<p>Identifies standards for usage of copycode. Copycode options are:</p> <p><b>Allow Copycode</b> If selected, applications may use Copycode objects.</p> <p><b>Minimum Usage</b> This can be set between 0 and 99 and standards will report any copycodes that are not referenced that number of times.</p>
<b>Object Comments</b>	<p>Identifies standards for comments within an object. Object Comments options are:</p>
	<p><b>Description</b> This can be 0 to 100 and requires at least that many comment lines at the start of the object.</p>
	<p><b>Percentage of Lines</b> This is a percentage range from 1 to 100, which specifies the comment number standard as required to fall within that range.</p>

# 1

## Natural Engineer Administration Guide

<b>PFKEYS</b>	<b>DESCRIPTION</b>
<b>PF1</b>	Activates the help function.
<b>PF3</b>	Exit from the current function and return to previous screen.
<b>PF5</b>	Saves the specified Global Standards details.
<b>PF9</b>	Invokes the Global Standards Preferences screen.
<b>PF10</b>	Invokes the Object Types screen.
<b>PF11</b>	Invokes the Standards options screen.
<b>PF12</b>	Returns to the Natural Engineer Main Menu.

## Global Standards Preferences

The Global Standards Preferences option allows the user to limit which standards are actually checked for during Impact execution.

This is accessed by selecting 'PF9' (Pref) from the Global Standards Definition screen.

The Following Figure 1-3 illustrates the Standards Preferences screen.

```
- Application Standards Preferences - Application: HOSPITAL

Y Data Type Usage
Y Full Statement Syntax
Y Message File
Y Rules in Maps
Y Object Mode
Y Data Item Name Length
Y Local Data Item Start Character
Y Data Qualifiers
Y Missing DB Labels
Y Missing None DB Labels
Y Dynamic Variables

Y AIVs
Y Reserved Words as Data Item
Y Hexadecimal
Y Copycode Usage
Y CopyCode Minimum Usage
Y Comments Description
Y Comments Percentage
Y Use ASSIGN/MOVE
Y Use COMPUTE
Y Use End not {.}
Y Local Data Qualifiers

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help      Exit
```

Figure 1-3 Global Standards Preferences screen

# 1

## Natural Engineer Administration Guide

<b>SCREEN ITEMS</b>	<b>DESCRIPTION</b>
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<b>Standards</b>	
------------------	--

Each standard is listed. A 'Y' in the selection column next to each standard indicates that the standard will be checked for. If a selection column is blank then that standard will not be referenced during Impact execution. The standards list shows:

- **Data Type Usage**
- **Full Statement Syntax**
- **Message File**
- **Rules in Maps**
- **Object Mode**
- **Data Item Name Length**
- **Local Data Item Start Character**
- **Database Qualifiers**
- **Missing DB Labels**
- **Missing Non DB Labels**
- **Dynamic Variables**
- **AIVs**
- **Reserved Words as Data Items**
- **Hexadecimal**
- **Copycode Usage**
- **Copycode Minimum Usage**
- **Comments Description**
- **Comments Percentage**
- **Use ASSIGN/MOVE**
- **Use COMPUTE**
- **Use END not {}**
- **Local Data Qualifiers**

<b>PFKEYS</b>	<b>DESCRIPTION</b>
---------------	--------------------

<b>PF1</b>	
------------	--

Activates the help function.

<b>PF3</b>	
------------	--

Exit from the current function and return to previous screen.

## Global Standards Object Types

The Global Standards Object Types option allows the user to limit which objects are actually checked for during Impact execution.

This is accessed by selecting 'PF10' (Type) from the Global Standards Definition screen.

The Following Figure 1-4 illustrates the Standards Object Types screen.

```
- Application Standards Object Types - Application: HOSPITAL

      Y Programs
      Y Maps
      Y Subprograms
      Y Subroutines
      Y Global Data Areas
      Y Local Data Areas
      Y Parameter Data Areas
      Y Copycode
      Y Dialogs
      Y Help routines
      Y DDMs

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help           Exit
```

Figure 1-4 Standards Object Types screen

# 1

## Natural Engineer Administration Guide

<b>SCREEN ITEMS</b>	<b>DESCRIPTION</b>
---------------------	--------------------

<b>Object Types</b>	Each object is listed. A 'Y' in the selection column next to each object type indicates that the object type will be checked for. If a selection column is blank then that object type will not be referenced during Impact execution. The object types list shows: <ul style="list-style-type: none"><li>▪ <b>Programs</b></li><li>▪ <b>Maps</b></li><li>▪ <b>Subprograms</b></li><li>▪ <b>Subroutines</b></li><li>▪ <b>Global Data Areas</b></li><li>▪ <b>Local Data Areas</b></li><li>▪ <b>Parameter Data Areas</b></li><li>▪ <b>Copycode</b></li><li>▪ <b>Dialogs</b></li><li>▪ <b>Help routines</b></li><li>▪ <b>DDMs</b></li></ul>
---------------------	--



<b>PFKEYS</b>	<b>DESCRIPTION</b>
---------------	--------------------

<b>PF1</b>	Activates the help function.
<b>PF3</b>	Exit from the current function and return to previous screen.

## Global Standards Labels and Data Manipulation Options

The Global Standards Labels and Data Manipulation options allow further standards to be checked for during Impact execution.

This is accessed by selecting 'PF11' (Opts) from the Global Standards Definition screen.

To select an option, use 'Y' in the selection column next to each option. Leave blank to ignore an option.

The Following Figure 1-5 illustrates the Standards Labels and Data Manipulation options screen.

```
- Application Standards Options -      Application: HOSPITAL

Labels
  _ Convert Back References to Labels
  _ Generate missing DB labels
  _ Generate missing non-DB labels

Assign/Move
  _ Always use Assign
  _ Always use Move
  Y None

  _ Always use Compute
  _ Always use End not '.'
  _ Qualify local variables with group name

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help           Exit                               Main
```

Figure 1-5 Standards Label and Data Manipulation options screen

SCREEN ITEMS	DESCRIPTION
<b>Labels</b>	<p>Identifies various label options. These options will generate modification details after impact execution, i.e., the modification option can be executed to add labels and/or convert back references. Label options are:</p> <p><b>Convert back references to labels</b> Identifies back references, which can be converted to labels. <i>Note: When this option is selected, the Generate missing DB labels and Generate missing non-DB labels options are automatically selected. The Convert back references to labels option relies on these to create the labels first.</i></p> <p><b>Generate missing DB labels</b> Identifies any Database access statements, which have no labels, associated with them. For Example: READ, FIND or HISTOGRAM. <i>Note: This option is mutually exclusive to both the Convert back references to labels and Generate missing non-DB labels options.</i></p> <p><b>Generate missing non-DB labels</b> Identifies any non-Database access statements which have no labels associated with them. For Example: FOR and REPEAT loops. <i>Note: This option is mutually exclusive to both the Convert back references to labels and Generate missing DB labels options.</i></p>
<b>ASSIGN/MOVE</b>	<p>Identifies the use of ASSIGN or MOVE statements. ASSIGN/MOVE options are:</p> <p><b>Always use ASSIGN</b> Any MOVE statements are located and reported.</p> <p><b>Always use MOVE</b> Any ASSIGN statements are located and reported.</p>

SCREEN ITEMS	DESCRIPTION
<b>Miscellaneous</b>	<p>Identifies standards for miscellaneous options. Miscellaneous options are:</p> <p><b>Always use COMPUTE</b> Any ASSIGN statements containing arithmetic constructs are located and reported. For Example: <b>ASSIGN #TOTAL = #NET-TOTAL + 1</b></p> <p><b>Always use END not {,}</b> Any use of ‘.’ as the END statement is located and reported.</p> <p><b>Qualify local variables with group name</b> Any local variables that are defined within a group and have no group name qualifier are located and reported. For Example: <b>0100 01 #TAX-GROUP</b> <b>0110 02 #TAX-RATE (N1.5)</b> <b>0120 02 #TAX-RATE2 (N3)</b> ::: <b>0300 COMPUTE #TOTAL-PAY = #ITEM-COST * #TAX-RATE</b> #TAX-RATE at line number 0300 would be reported as it should have the group high level qualifier #TAX-GROUP prefix, i.e., #TAX-GROUP.#TAX-RATE.</p>
PFKEYS	DESCRIPTION
<b>PF1</b>	Activates the help function.
<b>PF3</b>	Exit from the current function and return to previous screen.
<b>PF12</b>	Returns to the Natural Engineer Main Menu.



# CONFIGURATION

## Chapter Overview

---

This chapter describes some of the considerations and modifications you can make before running the Natural Engineer processes.

The topics that are covered are:

1. Initialization Settings
2. Environment sizing
3. Transferring Repository
4. Supplied Impact Search Criteria

## Initialization Settings

---

The various configuration options for Natural Engineer are held as initialization parameters contained in a text member: `###CINI`. This text member resides in the Natural Engineer library `SYSNEE`.

The format within the `###CINI` text member consists of labels used to group the various parameters to the applicable function area within Natural Engineer.

The `###CINI` file can be accessed by logging onto the `SYSNEE` library and editing object `###CINI`.

### ###CINI Parameters

The following table lists the entire ###CINI parameters and their respective group headings.

The notation used in the table:

**[GROUP HEADER]** Group headers will be surrounded by square brackets.  
**PARAMETER=** Each parameter is named and followed by an equal's sign.

Group Header / Parameter	Description
<b>[APPLICATION]</b>	
<b>LIBRARY=AAAAA</b>	Application name to be processed.
<b>PROGRAM=*</b>	Used to limit some reports.
<b>TASKID=TTTT</b>	The Task id used for Task Scheduler batch tasks.
<b>[LOAD]</b>	
<b>REPLACE=Y</b>	Default=Y Will replace objects if found on the Repository during the Load process.
<b>[EXTRACT]</b>	
<b>ELETAB=</b>	Default=2000 Maximum number of parsed elements per object.
<b>VARTAB=</b>	Default=2000 Maximum number of variable definitions per object.
<b>DDMCACHE=</b>	Default=0 Maximum number of DDM definitions held in memory. If this value is increased then the performance of the Extract process may be enhanced. Suggested values 0-10

## 2

## Natural Engineer Administration Guide

Group Header / Parameter	Description
<b>PERF-PTAB=</b>	Default=300 Amount of PERFORM statements held in internal table per object.
<b>PERF-DTAB=</b>	Default=130 Amount of DEFINE subroutine statements held in internal table per object.
<b>ADABAS-SHORT-NAMES=</b>	Default=N This ensures that Natural Engineer will identify the 2 byte mnemonics and tie them up with the DDM. Please note that this setting must only be used when the code does contain Adabas Short Names. Possible values Y,N
<b>[IMPACT]</b>	
<b>IOR=</b>	Default=Y Used when Consistency is selected for Analysis. If set to Y, data elements are tracked across object boundaries following the impact process. IOR=ONLY will ensure that Natural Engineer only performs inter object tracing. Please note that this setting should only be used following a successful multiple impact or restart a previously failed IOR process. Possible values Y,N, ONLY
<b>IOR-LIMIT=</b>	Default=20 Used when Consistency is selected for Analysis. This is the number of Iterations that IOR will track objects across object boundaries.
<b>REDEFMAP=</b>	Default=Y If set to Y, multiple redefines are tracked. Possible values Y,N
<b>START=</b>	Used when Consistency is selected for Analysis. Start object name for running concurrent Impact Analysis jobs or to start Impact Analysis after failure.

Group Header / Parameter	Description
<b>END=</b>	Used when Consistency is selected for Analysis.  End object name for running concurrent impact Analysis jobs. This should be set to blank if running impact Analysis after failure.
<b>MODE=</b>	Default=RE-ENG This is used to control the type of impact Analysis that will be used.
<b>GLOBAL_DATAITEM=</b>	Default=N  Used when consistency is selected for analysis and impacts have been made to Global Data Areas. By setting this flag to Y, Natural Engineer will track these fields, and derivations of these fields, until all possible impacts have been identified.
<b>DDM_DATAITEM=</b>	Default=N  Used when consistency is selected for analysis and impacts have been made to DDMs. By setting this flag to Y, Natural Engineer will track these fields, and derivations of these fields, until all possible impacts have been identified.
<b>LANG=</b>	Default=01  Used for Multi Search. Default multi search criteria may be created and saved in DATA directory as ###DEFnn.ISC, where nn refers to the language code.
<b>VERSION=VV</b>	Used to indicate the Impact Version number applicable.
<b>[MODIFY]</b>	
<b>COM_DA_AUTO=</b>	Default=NEE Mod The comment line for an automatic Data Area change.
<b>COM_DA_MAN=</b>	Default=NEE The comment line for a manual Data Area change.
<b>COM_AUTO=</b>	Default=NEE Modified The comment line for an automatic non Data Area change.

<b>Group Header / Parameter</b>	<b>Description</b>
<b>COM_MAN=</b>	Default=NEE Manual The comment line for a manual non Data Area change.
<b>COM_NOT=</b>	Default=NEE not Modified The comment line for no change required.
<b>COM_ERR=</b>	Default=NEE not Modified (logic error) The comment line for an error in processing.
<b>COM_COMPLEX=</b>	Default=NEE not Modified (complex) The comment line for a Modification that could not be completed.
<b>COMMENT-OLD-LINE=</b>	Default=Y  If set to Y, then the old code will be commented out and left in the modified object.  If set to N, then the old code is deleted from the modified object.
<b>COM_OLD_CODE=</b>	Default=NEE Old Code  There is now the ability for the user to customize the wording of the comment that is placed into the code during modification to indicate old code.
<b>COM_LITERAL_WARN=</b>	Default=: WARNING! CHECK LITERAL VALUE  If this is present then a warning will be added to the code if a literal needs to be modified.  If this parameter is not already present, then no message is added to the code, otherwise just before the line gets changed, you will get the field name involved with a literal compressed with the text for COM_LITERAL_WARN. Please note that the maximum length for a Modification comment is 32 bytes.

Group Header / Parameter	Description
<b>MARK_MANUAL_CW=</b>	<p>Default=Y</p> <p>If this is set to Y then a warning will be added to the modified code if manual modification is required to be performed by the user. Additionally the literal string, associated with the field name in the statements are flagged if the COM_LITERAL_WARN is set. The literal string for manual fields are NOT marked if the MARK_MANUAL_CW=N.</p> <p>Possible values Y,N</p>
<b>ADD_DO_DOEND=</b>	<p>Default=N</p> <p>This parameter will insert DO/DOEND logic into every IF statement in a reporting mode object if not already present. This is required to ensure that certain reengineering modification is performed correctly in complex IF/ELSE statements in reporting mode objects.</p> <p>This parameter is used for reengineering of reporting mode objects only.</p> <p>Possible values Y,N.</p>
<b>COMPONENT_OBJECT_NAME=</b>	<p>Default=#####*%</p> <p>Used in Object Builder. This is the primary pattern mask used to determine the name of the generated objects.</p> <p><i>Note: For more information on the pattern mask refer to the chapter on Object Builder in the Natural Engineer Application Restructuring for Mainframes manual.</i></p>
<b>COMPONENT_OVERFLOW_NAME=</b>	<p>Default=#####*%</p> <p>Used in Object Builder. This is an overflow pattern mask used when the primary pattern mask has been exhausted.</p> <p><i>Note: For more information on the pattern mask refer to the chapter on Object Builder in the Natural Engineer Application Restructuring for Mainframes manual.</i></p>

## 2

### Natural Engineer Administration Guide

<b>Group Header / Parameter</b>	<b>Description</b>
<b>OVERWRITE_EXISTING=</b>	<p>This parameter allows for a setting to be set when Task Scheduler is used to execute modification. This setting will determine what is to happen with existing objects in the modification library.</p> <p>Possible values:</p> <p>YA – yes to all</p> <p>NA – no to all</p> <p>C – cancel</p>
<b>[REPORTER]</b>	
<b>DELIMITER-CHAR=</b>	<p>Delimiter Character for CSV Files.</p> <p>Default = ,</p>

## Environment Sizing

---

This section describes the environment sizing considerations based on one million lines of source code.

### Hard Disk Space

Natural Engineer writes an Extract file (“application name”.OUT) which contains the neutral records for loading into the Natural Engineer Repository.

- For the PC platforms, 1 million lines of code require 120 Meg of hard disk space.
- For the MVS platform, 1 million lines of code requires 130 cylinders of disk space. This file can also be written to tape.

### Adabas Database

#### Space Requirements

The main consideration when estimating space requirements for Natural Engineer depends upon the complexity of the code, for example how many include routines are present (LDAs, GDAs, PDAs, COPYCODEs etc). The more include routines, the larger the Repository size.

An average record size is 135 bytes.

For 1 million lines of code and more, this would equate to the following:

	Natural Studio	MVS Mainframe	
	Adabas 2.2.3 on NT	3390	3380
<b>ASSO</b>	220 MB	520 cyls	620 cyls
<b>DATA</b>	250 MB	340 cyls	365 cyls
<b>WORK</b>	50 MB		

## 2

### Natural Engineer Administration Guide

#### Nucleus Parameters

The nucleus parameter settings listed below do not depend on the number of lines of code being processed. However, they reflect the recommended minimum set for any Natural Engineer Repository.

<b>Parameter</b>	<b>Setting</b>	<b>Comment</b>
<b>LQ</b>	30,000	
<b>LP</b>	1,600	
<b>LU</b>	16,000	
<b>LOGGING</b>		Set to blank.
<b>LFP</b>	40,000	
<b>LS</b>	20,000	
<b>TNAA</b>	7200	
<b>TNAE</b>	7200	
<b>TNAX</b>	7200	
<b>NOLOG</b>		

## Transferring Repository

---

Some sites or projects may not have sufficient network capability to employ an Entire Network solution. However, you may want to use the processing power of the mainframe with the GUI capabilities of the PC.

One method of achieving this is to duplicate the mainframe Natural Engineer Repository, following the EXTRACT, LOAD and IMPACT stages, to the PC.

### Transferring Natural Engineer Repository from Mainframe to PC

The following steps describe the processes involved to achieve a successful transfer:

To transfer the Natural Engineer Repository from the mainframe to the PC environment requires the following steps to be followed:

1. Check the Natural Engineer Repository File layouts
2. Decompress the file on the mainframe
3. Transfer the decompressed file to the PC
4. Create a Repository file on the PC
5. Compress and load the decompressed mainframe file onto the PC.

Each of these steps is described in more detail below.

### Check Natural Engineer Repository File Layouts

Prior to beginning the process, the file layouts of the Natural Engineer Repository file on the PC and the Mainframe need to be checked to ensure that they are identical.

To do this run ADAREPs on the mainframe and the PC and perform a visual check. If they are not identical then they need to be brought into line.

## Decompress the File on the Mainframe

The first stage in the process is to decompress the Natural Engineer Repository data on the mainframe.

### Example ADACMP JCL (MVS) to Decompress File on the Mainframe

```

000001 //XGSLIDE JOB CLASS=K,NOTIFY=XGS1,MSGCLASS=X,MSGLEVEL=(1,1)
000002 //*
000003 //JOB LIB DD DSN=RZDBA.DB177.NEWLOAD,DISP=SHR
000004 // DD DSN=RZDBA.DB177.LOAD,DISP=SHR
000005 //*
000006 //DECOMP EXEC PGM=ADARUN,
000007 // REGION=4M,
000008 // COND=(1,LT)
000009 //DDCARD DD *
000010 ADARUN PROG=ADACMP,SVC=249,DEVICE=3390,DB=177
000011 /*
000012 //DDASSOR1 DD DSN=DB177.SYSF.ASSOR1,DISP=SHR
000013 //DDDATAR1 DD DSN=DB177.SYSF.DATAR1,DISP=SHR
000014 //DDWORKR1 DD DSN=DB177.SYSF.WORKR1,DISP=SHR
000015 //DDAUSBA DD DSN=XGS1.DECOMP.F065.DATAV,
000016 // DISP=(,CATLG,DELETE),UNIT=DISK,
000017 // VOL=SER=EUP001,
000018 // SPACE=(CYL,(3,2),RLSE)
000019 //DDFEHL DD SYSOUT=*
000020 //DDPRINT DD SYSOUT=*
000021 //SYSUDUMP DD SYSOUT=*
000022 //DDDRUCK DD SYSOUT=*
000023 //DDKARTE DD *
000024 ADACMP DECOMPRESS INFILE=65
000025 /*

```

## Example of the Decompressed File created

```

DATA SET NAME : XGSL1.DECOMP.F065.DATAV

GENERAL DATA
VOLUME SERIAL : EUP001
DEVICE TYPE   : 3380
ORGANIZATION  : PS
RECORD FORMAT : VB
RECORD LENGTH : 23472
BLOCK SIZE    : 23476
ALLOCATION TYPE: CYL
1ST EXTENT   : 2          CYL 0   TRK
SECONDARY    : 2
SECURITY     : NONE

CURRENT-ALLOCATION
ALLOCATED CYLINDERS: 2
ALLOCATED EXTENTS : 1

CURRENT UTILIZATION
PERCENT USED: 97

```

## Example of the Decompress Job Output

```

A D A C M P   V6.2  SM1   DBID = 00177   STARTED           1999-02-01
14:21

PARAMETERS:
-----

ADACMP DECOMPRESS INFILE=65

DECOMPRESS PROCESSING STATISTICS:
-----
NUMBER OF RECORDS READ                911
NUMBER OF INCORRECT RECORDS           0
NUMBER OF DECOMPRESSED RECORDS        911

A D A C M P   TERMINATED NORMALLY           1999-02-01
14:21

```

## Transfer the Decompress File to the PC

Now transfer the decompress file that you have just created to the PC, in Binary, non-translated format.

FTP is recommended for this transfer.

## 2

### Natural Engineer Administration Guide

#### **Create Repository File on PC**

If a Repository file does not currently exist on the PC then one needs to be created using the FDT file supplied in X:\PROGRAM FILES\SOFTWARE AG\NEE\431\ADA folder (where X is the directory on which Natural Engineer was installed).

This would typically be performed by using the DBA Workbench utility.

#### **Compress and Load File on the PC**

The next stage is to compress and load the decompressed file onto the Repository file on the PC.

The following steps area guide to this process.

1. Highlight the file within DBA workbench.

The following Figure 2-1 illustrates the DBA Workbench file list screen with the Repository file selected.

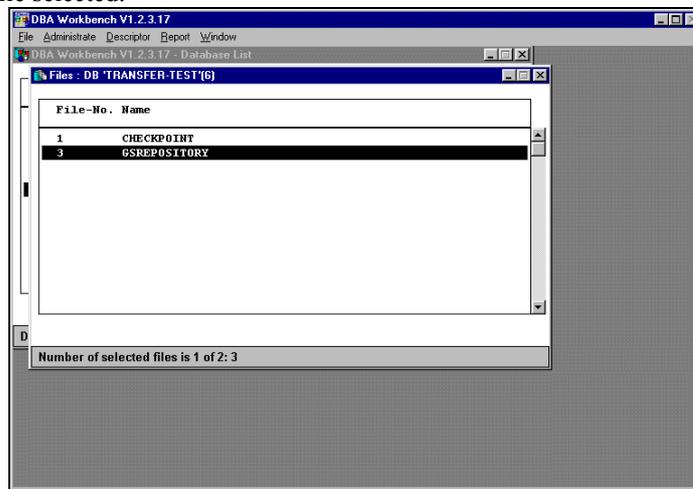


Figure 2-1 DBA Workbench file list screen

## 2

### Natural Engineer Administration Guide

2. Select, File, Compress from the main menu:

The following Figure 2-2 illustrates the DBA Workbench file compress option.

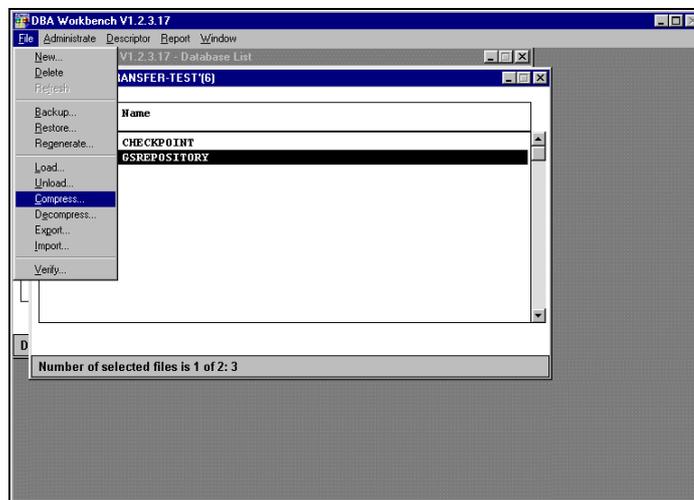


Figure 2-2 DBA Workbench file compress option

3. The following parameters should be entered:

The Data file is the decompressed file you copied to the PC from the mainframe.

The following Figure 2-3 illustrates the Compress File options screen within DBA Workbench.

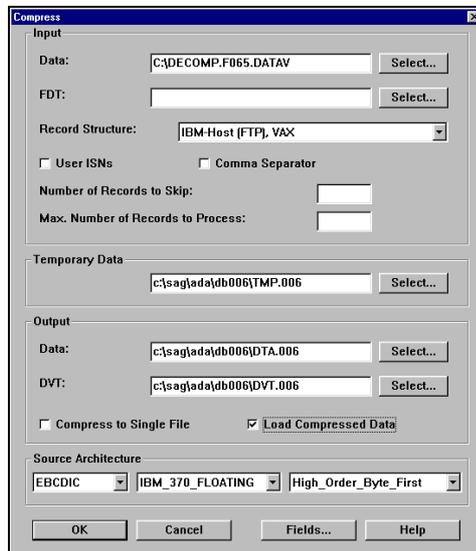


Figure 2-3 Compress File screen

## 2

### Natural Engineer Administration Guide

4. The LOAD screen will be shown

The following Figure 2-4 illustrates the Load File options screen within DBA Workbench.

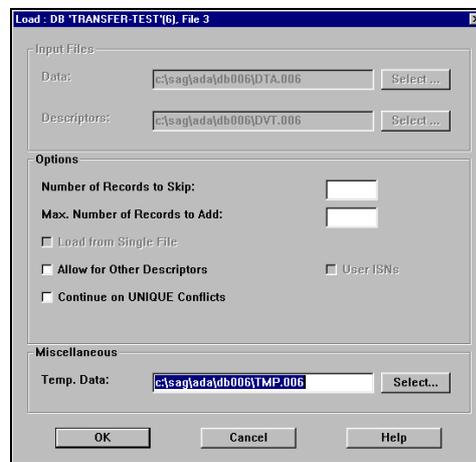


Figure 2-4 Load File screen

Click OK to start the Compress and Load process,

5. The Compress and Load jobs should produce three output windows. Sample output in each is shown below.
  - The first window is showing the conversion of EBCDIC to ASCII format:
    - Start converting C:\DECOMP.F065.DATAV
    - converting 911 records
  - The second is the output from ADACMP, which is compressing the data:

```
%ADACMP-I-STARTED,      01-FEB-1999 14:14:10, Version 2.2.3.22, (WINDOWS 95)
%ADACMP-I-NACTL, ADABAS nucleus active on local node

Descriptor summary:

Descriptor VM :          80 bytes,          10 occ
Descriptor S2 :       19,005 bytes,        905 occ
Descriptor S3 :       22,625 bytes,        905 occ
Descriptor S5 :          528 bytes,         28 occ
Descriptor S6 :       2,068 bytes,         94 occ
Descriptor S7 :       1,899 bytes,         94 occ
Descriptor S8 :      17,646 bytes,        346 occ
Descriptor SA :         489 bytes,         10 occ
Descriptor SB :       6,240 bytes,        120 occ
Descriptor SC :       9,320 bytes,        253 occ
Descriptor SD :      20,414 bytes,        346 occ
Descriptor SF :       2,565 bytes,         95 occ
Descriptor SI :           0 bytes,          0 occ
Descriptor SJ :         604 bytes,         24 occ
Descriptor SK :      13,582 bytes,        905 occ
Descriptor SL :         410 bytes,         10 occ
Descriptor SM :       1,380 bytes,         60 occ
Descriptor SN :         572 bytes,         32 occ
Descriptor SO :       9,669 bytes,        328 occ
Descriptor SQ :       2,750 bytes,         53 occ
Descriptor SR :       7,045 bytes,        328 occ

%ADACMP-I-CMPINP, Number of records read      :      911
%ADACMP-I-CMPERR, Number of incorrect records :         0
%ADACMP-I-CMPREC, Number of compressed records :      911
%ADACMP-I-CMPLCR, Largest compressed record   :     1476

%ADACMP-I-IOCNT,      6 IOs on dataset CMPDTA
%ADACMP-I-IOCNT,      7 IOs on dataset CMPDVT
%ADACMP-I-IOCNT,      0 IOs on dataset CMPERR
%ADACMP-I-IOCNT,     911 IOs on dataset CMPIN
%ADACMP-I-TERMINATED, 01-FEB-1999 14:14:11, elapsed time: 00:00:01
```

- The third is the output from ADAMUP, which is loading the data into the newly created Repository file:

## 2

### Natural Engineer Administration Guide

```
%ADAMUP-I-STARTED,      01-FEB-1999 14:14:12, Version 2.2.3.22, (WINDOWS 95)
%ADAMUP-I-DBON, database 6 accessed online

%ADAMUP-W-OPNERR, dataset SORT1 , file C:\sag\ada\db006\SORT1 could not be opened
%ADAMUP-W-ERRNOM, errno (2): No such file or directory
%ADAMUP-W-OPNERR, dataset TEMP1 , file C:\sag\ada\db006\TEMP1 could not be opened
%ADAMUP-W-ERRNOM, errno (2): No such file or directory

%ADAMUP-I-DSUPD, data storage being modified
%ADAMUP-I-DSDONE, data storage completed

%ADAMUP-I-SRTWPSZE, work pool size 1500000 bytes

%ADAMUP-I-SORTDESC, sorting descriptor S3
%ADAMUP-I-LOADDESC, loading descriptor S3

%ADAMUP-I-SORTDESC, sorting descriptor S2
%ADAMUP-I-LOADDESC, loading descriptor S2

%ADAMUP-I-SORTDESC, sorting descriptor SD
%ADAMUP-I-LOADDESC, loading descriptor SD

%ADAMUP-I-SORTDESC, sorting descriptor SK
%ADAMUP-I-LOADDESC, loading descriptor SK

%ADAMUP-I-SORTDESC, sorting descriptor S8
%ADAMUP-I-LOADDESC, loading descriptor S8

%ADAMUP-I-SORTDESC, sorting descriptor SO
%ADAMUP-I-LOADDESC, loading descriptor SO

%ADAMUP-I-SORTDESC, sorting descriptor SC
%ADAMUP-I-LOADDESC, loading descriptor SC

%ADAMUP-I-SORTDESC, sorting descriptor SR
%ADAMUP-I-LOADDESC, loading descriptor SR

%ADAMUP-I-SORTDESC, sorting descriptor SB
%ADAMUP-I-LOADDESC, loading descriptor SB

%ADAMUP-I-SORTDESC, sorting descriptor SF
%ADAMUP-I-LOADDESC, loading descriptor SF

%ADAMUP-I-SORTDESC, sorting descriptor SQ
%ADAMUP-I-LOADDESC, loading descriptor SQ

%ADAMUP-I-SORTDESC, sorting descriptor S6
%ADAMUP-I-LOADDESC, loading descriptor S6

%ADAMUP-I-SORTDESC, sorting descriptor S7
%ADAMUP-I-LOADDESC, loading descriptor S7

%ADAMUP-I-SORTDESC, sorting descriptor SM
%ADAMUP-I-LOADDESC, loading descriptor SM
```

```
%ADAMUP-I-SORTDESC, sorting descriptor SN
%ADAMUP-I-LOADDESC, loading descriptor SN

%ADAMUP-I-SORTDESC, sorting descriptor SJ
%ADAMUP-I-LOADDESC, loading descriptor SJ

%ADAMUP-I-SORTDESC, sorting descriptor S5
%ADAMUP-I-LOADDESC, loading descriptor S5

%ADAMUP-I-SORTDESC, sorting descriptor SA
%ADAMUP-I-LOADDESC, loading descriptor SA

%ADAMUP-I-SORTDESC, sorting descriptor SL
%ADAMUP-I-LOADDESC, loading descriptor SL

%ADAMUP-I-SORTDESC, sorting descriptor VM
%ADAMUP-I-LOADDESC, loading descriptor VM

%ADAMUP-I-NULDESC, no values for descriptor SI

%ADAMUP-I-DVTPASSES, DVT records processed 21 times

%ADAMUP-I-ADDREC, file 3, 911 records added

%ADAMUP-I-IOCNT,      33 IOs on dataset DATA
%ADAMUP-I-IOCNT,      73 IOs on dataset ASSO
%ADAMUP-I-IOCNT,      32 IOs on dataset MUPDTA
%ADAMUP-I-IOCNT,      651 IOs on dataset MUPDVT
%ADAMUP-I-IOCNT,       0 IOs on dataset MUPTMP
%ADAMUP-I-TERMINATED, 01-FEB-1999 14:14:14, elapsed time: 00:00:02
```

## Common Load Problems

### NAT3048 received during Load

This has two possible causes. The first is that someone is logged on using the file. The solution here is to log them off during the Load process.

It is also received if a previous attempt to Load the file failed. To clear this, highlight the database and from the main menu, select, DATABASE, OPERATE, RESET UCB as shown below:

The following Figure 2-5 illustrates the option Reset UCB within DBA Workbench.

# 2

## Natural Engineer Administration Guide

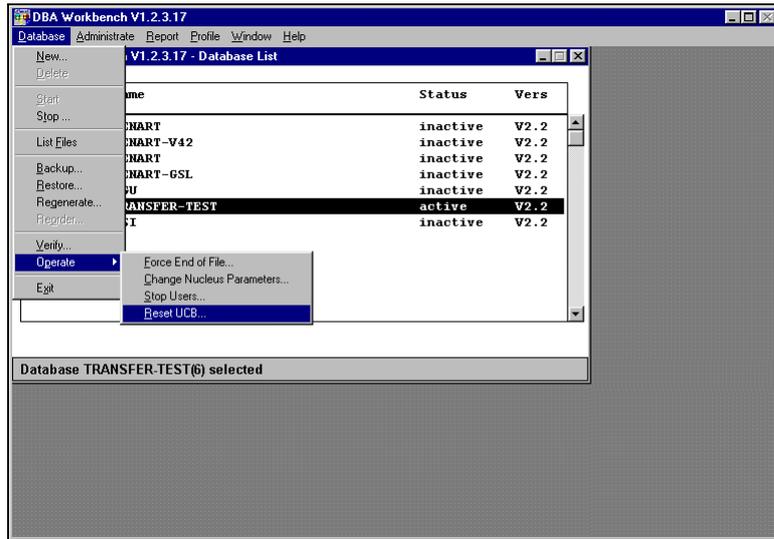


Figure 2-5 Reset UCB option

This will then present a list of items that require resetting. Select the appropriate entry to reset.

## Supplied Impact Search Criteria

---

Natural Engineer comes supplied with several Impact Search Criteria sets, which are loaded into the Repository as part of the Natural Engineer installation process.

The installed Impact Search Criteria sets are:

1. ###DEF01
2. CODEINT
3. OBJPRES
4. OBJTECH

### ###DEF01

This is the default search criteria used during the specification of impact search criteria when the search keyword MULTI SEARCH has been selected.

The contents of this file are:

```
* Multi Search Options
* A Absolute Exclude
* I Include
* X Exclude
* IL Include Literal
* XL Exclude Literal
* * Comment
* IA Include Attribute
* XA Exclude Attribute
```

This may be customized by the User.

### CODEINT

The CODEINT set contains the impact search criteria set for the search keyword INTERNATIONALIZATION.

This file can be used by using 'PF4' (GetSa) option on the Impact Criteria Summary screen.

*Note: For more information on this search keyword refer to the Natural Engineer Application Analysis & Modification for Mainframes manual.*

## OBJPRES

The OBJPRES set contains the impact search criteria set for the search keyword OBJECT BUILDER when executing the Presentation layer option.

This file can be used by using 'PF4' (GetSa) option on the Impact Criteria Summary screen.

*Note: For more information on this search keyword refer to the Natural Engineer Application Restructuring for Mainframes manual.*

## OBJTECH

The OBJTECH set contains the impact search criteria set for the search keyword OBJECT BUILDER when executing the Technical Split option.

This file can be used by using 'PF4' (GetSa) option on the Impact Criteria Summary screen.

*Note: For more information on this search keyword refer to the Natural Engineer Application Restructuring for Mainframes manual.*

## Limits

---

Due to constraints on different platforms, Natural Engineer has to have certain limits.

It is possible to customize these limits to suit the environment being used, for the following options:

### Extract

Option	Default Value	User Modifiable	How to modify
Amount of DDMs per Object	50	NO	
Amount of Views per Object	100	NO	
Maximum number of parsed elements per Object	10000	YES	The <b>ELETAB=</b> parameter in section [EXTRACT] of the ###CINI text member.
Maximum number of variable definitions per object.	1000	YES	The <b>VARTAB=</b> parameter in section [EXTRACT] of the ###CINI text member.
Amount of objects to retrieve from steplibs	1000	YES	The <b>STEPTAB=</b> parameter in section [EXTRACT] of the ###CINI text member.
Maximum number of DDM definitions in memory	0	YES	The <b>DDMCACHE=</b> parameter in section [EXTRACT] of the ###CINI text member.
Amount of PERFORM statements per object	300	YES	The <b>PERF-TAB=</b> parameter in section [EXTRACT] of the ###CINI text member.
Amount of DEFINE subroutines held per object	130	YES	The <b>PERF-DTAB=</b> parameter in section [EXTRACT] of the ###CINI text member.

## Impact

Option	Default Value	User Modifiable	How to modify
Amount of Impact Versions per Application.	99	NO	
Maximum number of iterations that IOR will track objects across Object boundaries when consistency used for Analysis.	20	YES	The <b>IOR-LIMIT=</b> parameter in section <b>[IMPACT]</b> of the <b>###CINI</b> text member.

## General

Option	Default Value	User Modifiable	How to modify
Length of Directory path name when importing external files e.g. Impact Search Criteria (*.IRE)	64	NO	
Amount of Entry Points allowed to be specified	29	NO	
Maximum amount of Objects loaded into a list box for selection at one time	200	YES	The <b>LISTBOXMAX=</b> parameter in section <b>[LIMITS]</b> of the <b>###CINI</b> text member.



# INDEX

## D

- Default Text Logic Members, 12
  - Default Text Logic Members screen, 13
  - Supplied Default Text Logic Members, 12

## E

- Environment Sizing, 39

## G

- Global Standards, 18
  - Global Standards Definition screen, 19
  - Labels and Data Manipulation options, 27
  - Object Types, 25
  - Preferences, 23

## I

- Initialization Settings, 32
  - ###CINI parameters, 33

## L

- Limits, 56
  - Extract, 56
  - General, 57
  - Impact, 57

## S

- Supplied Impact Search Criteria, 53
  - ###DEF01, 54
  - CODEINT, 54
  - OBJPRES, 55
  - OBJTECH, 55

## T

- Transferring Repository, 41

