Empower

Knowledge Center User's Guide

Version 2.0.0

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This document applies to Empower Version 2.0.0 and all subsequent releases.

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Table of Contents

Preface vii
1 About this Documentation 1
Document Conventions 2
Online Information and Support 2
Data Protection 3
I Knowledge Center 5
2 Document Types in the Knowledge Center 7
Which Types of Documents do I Find in the Knowledge Center? 8
In Which Section do I Find Which Types of Documents? 9
What is the Meaning of the Icons at the Top of a Document? 9
Which Types of Documents Support the Print and/or Send Link Functionality? 10
3 Searching the Knowledge Center 11
Searching the Content and Title of a Document 12
Searching the Attributes of a Document 13
Specifying Operators in the Search Form 15
Specifying Keywords for Corrections, Early Warnings and Further Documents in the Search Form 16
4 Using the Fix Explorer 19
Browsing Corrections in a Familiar Explorer Style Format 20
Searching for a Correction 24
5 Displaying an Overview of All Fixes 29
6 Downloading Corrections 31
7 Explanation of Icons 33
8 Finding Early Warnings 35
9 Finding Technical Papers 37
10 Finding KB Articles 39
II Resolution Handling Advice 41
11 Loading Fixes in BS2ZIP format to BS2000 43
Step 1: Download the ZIP File from Empower 44
Step 2: Transfer the ZIP File from the PC to BS2000 44
Step 3: Extract Files using BS2ZIP 45
Step 4: Install with SMA 45
12 Loading Binary Host Files to BS2000 47
What's New in SNT Version 1.1.3 for BS2000? 48
Obtain the Decoding Program 48
Download and Decode a Binary File 49
Install the Correction 50
Example - Output of Procedure P.SNTDECOD 51
13 Loading Binary Host Files to z/OS Using SAGNET Format 53
Obtain and Install the Decoding Program from Software AG 54
Download and Decode a Binary Correction 57
Install the Correction 60

14 Loading Binary Host Files to z/OS Using XMIT Format 63
Step 1: Download the ZIP File from Empower 64
Step 2: Unpack the ZIP File 64
Step 3: Transfer the Fix Files from the PC to z/OS 64
Step 4: Extract File using XMIT 65
Step 5: Install with SMA 66
15 Loading Binary Host Files to VM/CMS (CMS for z/VM) 67
Obtain and Install the Decoding Program 68
Download and Decode a Binary File 69
Install the Correction 69
16 Loading Binary Host Files to z/VSE 71
Obtain and Install the Decoding Program 72
Download and Decode a Host Product Correction from Empower 74
Install the Correction 75
Samples for File Transfer 75
Handling DOSLIBR Corrections 78
17 Downloading and Transferring SMA Tables 81
General Information 82
Transferring SMA Tables from a PC to a z/OS Host Using FTP 82
Transferring SMA Tables from a PC to a z/VSE Host Using FTP 83
Transferring SMA Tables from a PC to a BS2000/OSD Host Using FTP 84
18 SNTDECOD Error Messages 87
19 Loading Binary Host Files to OpenVMS 93
Reblock and Install via VMS Command 94
20 Loading Binary Host Files to OS/400 95
21 Loading Resolutions for UNIX and PC Platforms 97
22 Delivery of Natural CICS (NCI) Source Changes 99
23 FAQ: Handling of Resolutions/Fixes 101
Where do I find product fixes? 102
Can I get every source fix (INPLs, IUPDs, etc.) for a particular product in one downloadable module? 102
How do I get the source fix to my mainframe? 102
My operating system does not have a TCP/IP stack. What else can I use? 102
How often are resolutions loaded into Empower? 102
Why are some old corrections/fixes no longer accessible? 103
How do I prepare a mainframe PDS or other variable-blocked file for FTP? 103
How do I download Zaps and source changes? 103
Whenever I try to display or download a fix, I cannot seem to get connected and sometimes I receive a time-out message from the server. Why? 103
Whenever I try to display or download a fix, I get a message telling me that the URL is forbidden. Why? 103
When I try to download a Zap or fix, I get a message like: “unknown plug-in - application/x-unknown”. What's wrong? 104

When I try to download ASCII-type files the contents of the file are displayed instead of being saved to disk. What's wrong? 104
How can I obtain all Zaps for a specific product version easily? 104
How do I apply source data fixes to my mainframe? 104
Why are some mainframe corrections coded and compressed? 105
Why are source fixes encoded which require decoding before they can be applied to the mainframe? 105
Where do I get the decoder required for source fixes? 105
The decoder gives me an error when I try to decode a fix data set on the mainframe. What can I do? 106
How do I apply coded corrections to my mainframe? 106
24 Using Command Central or Software AG Update Manager to Install Fixes 107
25 Important Advice for Correction Installation 109
26 Applying a Natural INPL in a 24x7 Environment 111
27 Resolution References and Product Versions 113
28 Corrections on UNIX and PC: CD Label Information 115
29 Installing the IBM Virtual Tape Server for z/VSE 117
Supported Tape Image Formats 118
Implementing the VSE Virtual Tape Server 119
How the VSE Virtual Tape Server Process Works 120
30 Special Characters in Zaps 123
31 Product Code Translation Table 125
32 Downloading LMS Libraries from Empower 127
33 Service Packs in INPL Format for Entire Systems Management Products 131
FAQs 132
34 Change Concerning Conventions for our Mainframe Corrections 135
Correction ID 136
Download from Empower 136
Tape Order Process 137
"Knowledge Center - Correction" Document Layout 137
35 Downloading BS2000 Resolutions 139

Preface

The information in this document is organized under the following headings:

Knowledge Center	About the document types describing solutions to technical problems covering all aspects of Software AG products. How to search the Knowledge Center and download corrections. How to find fixes, early warnings, and technical papers.
Resolution Handling Advice	How to handle the different correction types.

1 About this Documentation

- Document Conventions 2
- Online Information and Support 2
- Data Protection 3

Document Conventions

Convention	Description
Bold	Identifies elements on a screen.
`Monospace font`	Identifies service names and locations in the format *`folder.subfolder.service`*, APIs, Java classes, methods, properties.
`Italic`	Identifies: Variables for which you must supply values specific to your own situation or environment. New terms the first time they occur in the text. References to other documentation sources.
`Monospace font`	Identifies: Text you must type in. Messages displayed by the system. Program code.
{ }	Indicates a set of choices from which you must choose one. Type only the information inside the curly braces. Do not type the { } symbols.
|	Separates two mutually exclusive choices in a syntax line. Type one of these choices. Do not type the | symbol.
[ ]	Indicates one or more options. Type only the information inside the square brackets. Do not type the [ ] symbols.
...	Indicates that you can type multiple options of the same type. Type only the information. Do not type the ellipsis (...).

Online Information and Support

Product Documentation

You can find the product documentation on our documentation website at **https://documentation.softwareag.com**.

Product Training

You can find helpful product training material on our Learning Portal at **https://learn.softwareag.com**.

Tech Community

You can collaborate with Software GmbH experts on our Tech Community website at **https://techcommunity.softwareag.com**. From here you can, for example:

- Browse through our vast knowledge base.
- Ask questions and find answers in our discussion forums.
- Get the latest Software GmbH news and announcements.
- Explore our communities.
- Go to our public GitHub and Docker repositories at **https://github.com/softwareag** and **https://hub.docker.com/publishers/softwareag** and discover additional Software GmbH resources.

Product Support

Support for Software GmbH products is provided to licensed customers via our Empower Portal at **https://empower.softwareag.com**. Many services on this portal require that you have an account. If you do not yet have one, you can request it at **https://empower.softwareag.com/register**. Once you have an account, you can, for example:

- Download products, updates and fixes.
- Search the Knowledge Center for technical information and tips.
- Subscribe to early warnings and critical alerts.
- Open and update support incidents.
- Add product feature requests.

Data Protection

Software AG products provide functionality with respect to processing of personal data according to the EU General Data Protection Regulation (GDPR). Where applicable, appropriate steps are documented in the respective administration documentation.

I Knowledge Center

This part describes the functions that are available when you choose **Knowledge Center** from the navigation bar on the left.

The Knowledge Center conducts searches to answer your product and support queries. Using a full-text retrieval engine, it answers technical queries concerning Software AG products and supports you with tips and technical guidance. The core of the Knowledge Center consists of documents describing solutions to technical problems covering all aspects of Software AG products.

The information in this part is organized under the following headings:

Document Types in the Knowledge Center
Searching the Knowledge Center
Using the Fix Explorer
Displaying an Overview of All Fixes
Downloading Corrections
Explanation of Icons
Finding Early Warnings
Finding Technical Papers
Finding KB Articles

For further information on the Knowledge Center, see *Resolution Handling Advice*.

2 Document Types in the Knowledge Center

- Which Types of Documents do I Find in the Knowledge Center? 8
- In Which Section do I Find Which Types of Documents? 9
- What is the Meaning of the Icons at the Top of a Document? 9
- Which Types of Documents Support the Print and/or Send Link Functionality? 10

Which Types of Documents do I Find in the Knowledge Center?

In the Knowledge Center, you can search for the following document types:

- **Corrections/Fixes**
  Corrections/fixes are provided in downloadable format. Some of them (for example, Zaps) can also be displayed online.

  The following types of corrections/fixes are available:

  - **Service Packs**
    Service packs are cumulative fixes, which means the current correction encloses all previous corrections (that is: summary IUPDs for Natural and Natural-based products).

    Note: IUPD stands for “initial update”.

  - **All Zaps**
    Zaps contain all available Zaps for a specific product version/release/system maintenance level combined in a single data set, allowing for an easy download in one single step.
  - **SMA Tables**
    An SMA table is a fix to make a correction known to your SMA tables.
- **Early Warnings**
  Early warnings contain corrections to errors which may cause loss of data integrity, or invalid results without an error message being issued.
- **Technical Papers**
  Technical papers are comprehensive product-related descriptions of specific technical issues, for example, migrations to a higher product version.
- **KB Articles**
  Resolutions to problems encountered by other users. These include Technical Tips and Technical Articles from our former support sites.

In Which Section do I Find Which Types of Documents?

Document Type		Knowledge Center Section
Corrections/Fixes		**Fix Explorer** **Search The Knowledge Center**
	Service Packs	**All Fixes** **Search The Knowledge Center** (via All Corrections) **Fix Explorer**
	All Zaps	**All Fixes** **Search The Knowledge Center** (via All Corrections)
	SMA Tables	**All Fixes** **Search The Knowledge Center** (via All Corrections)
Early Warnings		**Early Warnings** **Search The Knowledge Center**
Technical Papers		**Technical Papers** **Search The Knowledge Center**
KB Articles		**eService** **Search The Knowledge Center**

What is the Meaning of the Icons at the Top of a Document?

The following links/icons are provided at the top of a document which is found when **searching the Knowledge Center**:

Link/Icon	Description
Feedback	When you choose this link, a page is opened in which you can give feedback to the current document.
	Only shown when you access the document via the search form and when the search terms are currently highlighted. When you choose this icon, search term highlighting is turned off.
	Only shown when you access the document via the search form and when the search terms are currently not highlighted.When you choose this icon, search term highlighting is turned on.
	This icon indicates that a printer-friendly version of the document is available. When you choose this icon, a a new browser window is opened, showing the printer-friendly version which can then be printed using the print functionality of your browser.
	This icon indicates that a link to this document can be send by email. When you choose this icon, a new email containing the link is created using your local email client.

Which Types of Documents Support the Print and/or Send Link Functionality?

See the previous section for an explanation of the icons that are used for printing and for sending links.

Document Type		Print	Send Link
Corrections/Fixes		yes	yes
	Service Packs	yes	yes
	All Zaps	no	no
	SMA Tables	no	no
Early Warnings		yes	yes
Technical Papers		yes	yes
KB Articles		yes	yes

3 Searching the Knowledge Center

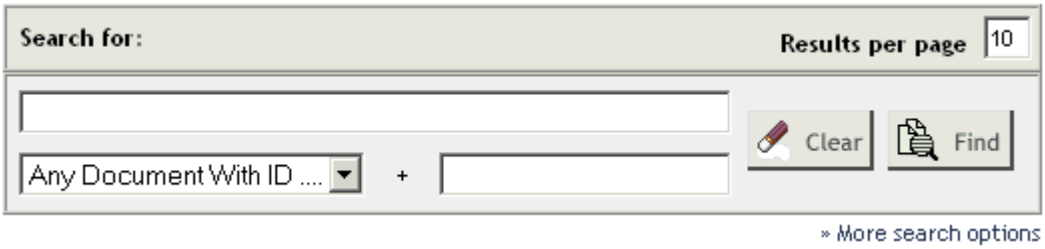
- Searching the Content and Title of a Document 12
- Searching the Attributes of a Document 13
- Specifying Operators in the Search Form 15
- Specifying Keywords for Corrections, Early Warnings and Further Documents in the Search Form 16

To search the Knowledge Center, choose **Search The Knowledge Center** from the navigation bar on the left. A search form then appears in the right frame.

You can search different areas of a document. This is described in this chapter.

Searching the Content and Title of a Document

Using the following search form, you can search in the content and the title of a document.



Note: When the optional search fields are currently shown (previously invoked via the **More search options** link), choose the **Less search options** link to display the above form.

Input fields are provided in which you can specify the following:

1. The number of results that are to be shown on a page.
2. Your text query, that is: the text for which you are searching.

   When you search for more than one item, the AND operator is always used as a default. See *Specifying Operators in the Search Form* for further information.
3. The document types that are to be searched (for example, corrections or early warnings).
4. The ID of the document that is to be found.

When you choose the **Find** button or press ENTER, a results list is shown, containing all documents which match your search criteria.

The following information is provided in the results list:

- The title of a document contains the product name and version. You can display a document by choosing its title. See also *Downloading Corrections* which describes the content of a page which is shown for a correction.
- An excerpt, which is shown below the title, informs you about the content of the document. Information is given concerning the date of the last update, the operating system and the document ID.

- An icon, which is shown in front of the title, gives information on the document type of a result. The document type is shown in a tooltip when you move the mouse pointer over the icon. See also *Explanation of Icons*.
- Below the result list, the number of found documents is shown.

  When more than one results page is available, an arrow is shown and numbers representing the result pages. For example:



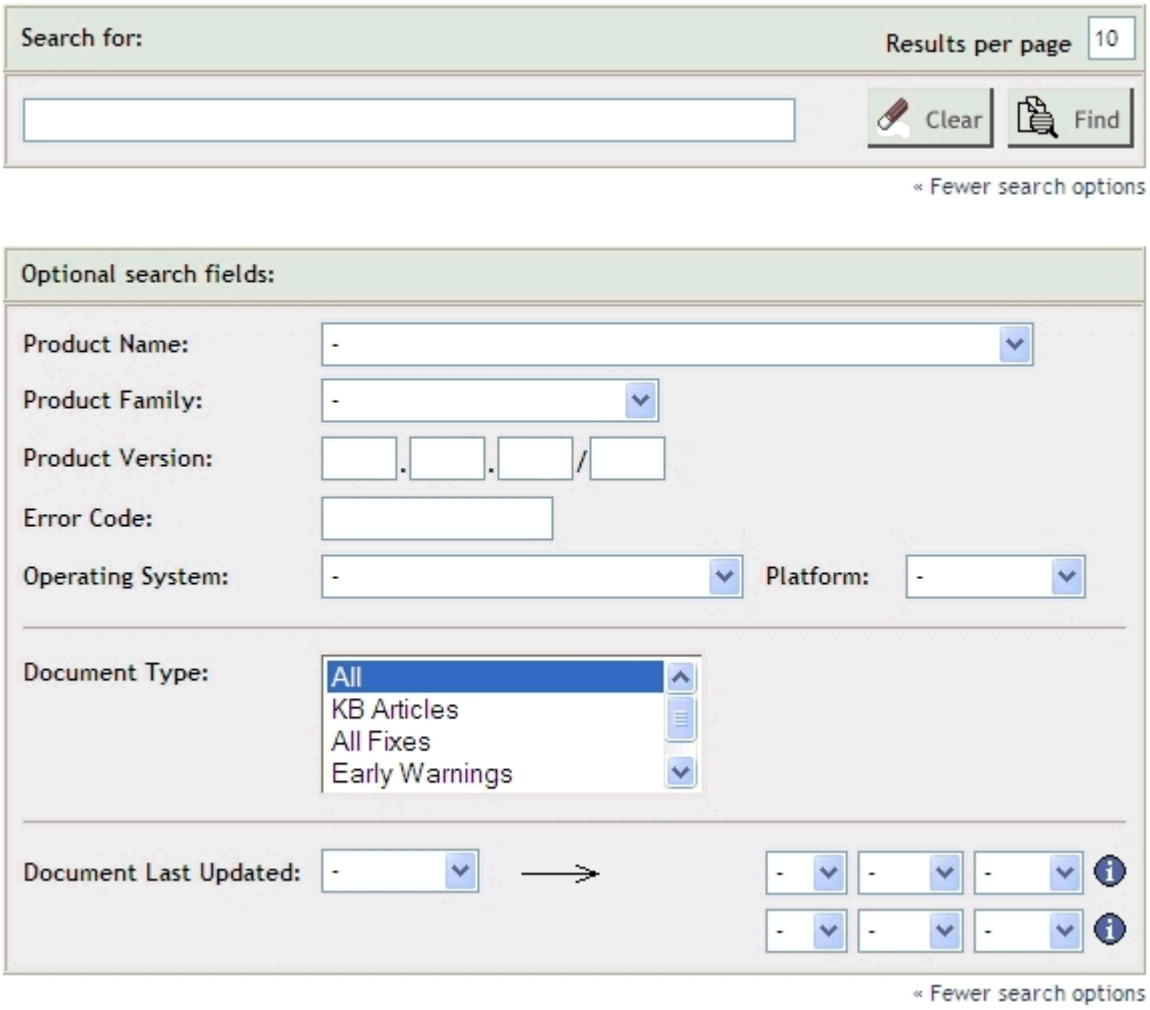
  You can either choose the arrow or a page number to proceed to the next page of the results list.
- The search form is provided at the very bottom of each page of the results list. If you want, you can now restrict your search, for example, to a document with a specific ID.

Notes:

1. You can also use the **Refine** link at the top of a results page to jump to the search form.
2. When you choose the **Clear** link at the top of a results page or the **Clear** button in the search form, the results list is no longer shown. Only the search form is then shown; any previously entered information is no longer shown.
3. When you choose the **More search options** link, which is shown below the search form, the results list is no longer shown. Only the search form is then shown.

Searching the Attributes of a Document

When you choose the **More search options** link at the bottom of the **above** form, you can search in the attributes of a document (for example, product code, version number and date of last update). The following form is shown in this case:



In addition to the search text, you can specify further search criteria using the optional search fields. In the optional search fields, the operator AND is automatically used.

When you choose the **Find** button or press ENTER, a list of results is shown, containing all documents which match your search criteria.

Note: The **Parsed Query Text** section appears at the bottom of the results page. It displays the query that has been executed, including the operators that have been used in the query.

Specifying Operators in the Search Form

All operators have to be entered in capital letters.

Search terms are not case-sensitive.

You can use more than one operator to define your search. If you use several operators, `AND` and `NOT` have a higher priority than `OR`.

If you have search terms with only one or two characters, you have to specify a plus sign (+) in front of the term (for example, "+LS"), otherwise the term is disregarded and you will not get the requested results.

Examples

- To search for documents containing "Term1" and "Term2", enter one of the following:

```
term1 term2
```

```
term1 AND term2
```

- To search for documents containing "Term1" and not "Term2", enter the following:

```
term1 AND NOT term2
```

- To search for documents containing "Term1" or "Term2", enter the following:

```
term1 OR term2
```

- To search for documents containing a certain term, for example "Tomcat", enter the following:

```
tomcat
```

- To search for documents which must not contain a certain term, for example "Tomcat", enter the following:

```
NOT tomcat
```

- To search for documents, which contain a certain prefix, for example "NAT4*", enter the following:

```
nat4*
```

Note: Only a trailing wildcard is supported. For example, "*NAT4" and "NAT*4" are not valid.

- To search for documents, which contain a certain phrase, for example "runtime error", enter the following:

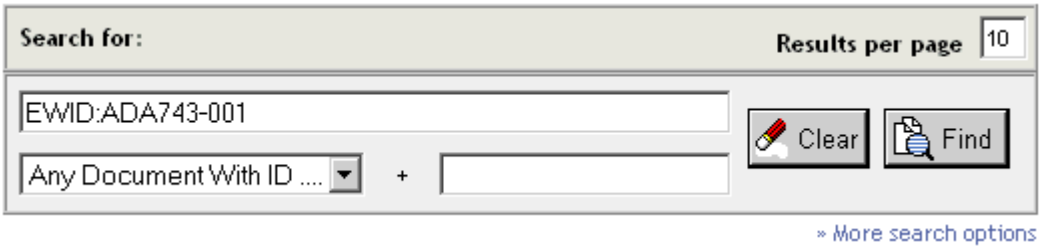
```
"runtime error"
```

Specifying Keywords for Corrections, Early Warnings and Further Documents in the Search Form

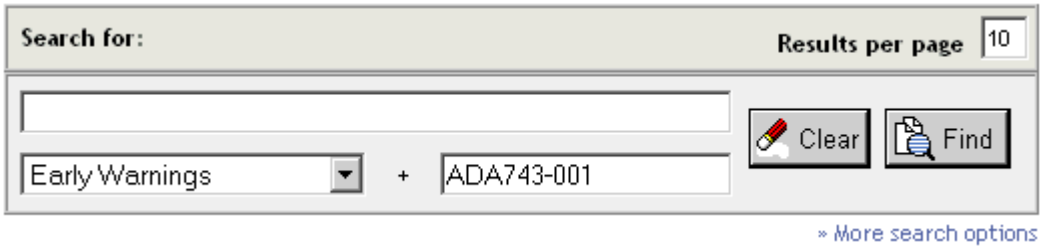
If you are looking for a specific correction, early warning or technical paper, you can find this information directly by entering one of the following keywords and the respective ID in the search form. You enter it in the text box in which you normally enter the query.

Keyword	Description
CORRID:	Find a correction (Zap, source change, INPL etc.). Example: `CORRID:AVB511S002`
EWID:	Find an early warning. Example: `EWID:ADA743-001`
DOCID:	Find a document/resolution. Example: `DOCID:521209`

All keywords have to be entered in capital letters, followed by a colon and then - without a blank - the respective ID. For example:



The above way of searching corresponds to selecting a document type from the drop-down list box and then entering the ID in the adjacent text box - without the keyword. For example, the above search can also be specified as follows:

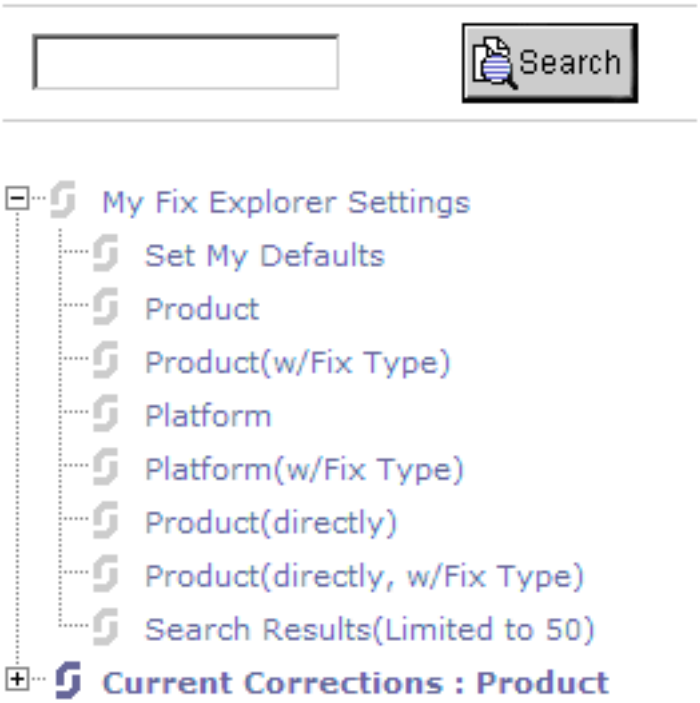


4 Using the Fix Explorer

- Browsing Corrections in a Familiar Explorer Style Format 20
- Searching for a Correction 24

The Fix Explorer, which is part of the Knowledge Center, provides enhanced web access to Software AG product corrections.

To access the Fix Explorer, choose **Fix Explorer** from the left navigation bar.



The Fix Explorer offers various ways to search for corrections, which are explained below.

Browsing Corrections in a Familiar Explorer Style Format

You can look for corrections in a familiar Explorer style format.

The following topics are covered below:

- Types of Views
- Set My Defaults

- Browsing to a Correction

Types of Views

The Fix Explorer provides different views. You access a view by choosing one of the following links that are located in the **My Fix Explorer Settings** node. The tree for the corresponding view is then automatically opened under the **Current Corrections:** *view-name* node (the current view setting is always shown in the node name).

- **Product**
  When you choose this view, the sequence of information in the tree is as follows:

  Product
  Platform
  Operating System
  Version
  Correction

- **Product (w/Fix Type)**
  When you choose this view, the sequence of information in the tree is as follows:

  Product
  Platform
  Operating System
  Version
  Fix Type
  Correction

- **Platform**
  When you choose this view, the sequence of information in the tree is as follows:

  Platform
  Operating System
  Product
  Version
  Correction

- **Platform (w/Fix Type)**
  When you choose this view, the sequence of information in the tree is as follows:

  Platform
  Operating System
  Product
  Version
  Fix Type
  Correction

- **Product (directly)**
  When you choose this view, the sequence of information in the tree is as follows:

  Product
  Version for Operating System
  Correction

- **Product (directly, w/Fix Type)**
  When you choose this view, the sequence of information in the tree is as follows:

  Product
  Version for Operating System
  Fix Type
  Correction



Note: The views indicated by "directly" are primarily intended for webMethods corrections, which are often platform-independent. For webMethods products, a single entry is shown for "Version for Operating System". For all other products which are not platform-independent, a separate entry is provided for each operating system.

Set My Defaults

When you choose the **Set My Defaults** link (which is located in the **My Fix Explorer Settings** node), you can define your default settings for the Fix Explorer. A page is shown to the right of the tree in which you can define a view and/or a bookmark.

- **View**
  You can define a default view which is automatically used the next time you open the Fix Explorer or a new browser session. To do so, select the option button for the desired view (see also *Types of Views*).

- **Bookmark**
  The bookmark feature remembers the last position in the Fix Explorer. The following options are available:

  Bookmark my last location
  When this check box is selected, your current location in the tree is marked. When you start a new browser session and have this option turned on, the browser will open the Fix Explorer at the position you last viewed.

  The bookmark overrides the default view setting. To always default to a certain view, simply leave this check box unchecked.

  Sort in fix name order
  When this check box is selected, the fixes are sorted in alphabetical order by name.

  When this check box is not selected, the fixes are sorted by the date on which they were added.

Browsing to a Correction

The following example shows how to browse to a specific correction in the tree. It is assumed that the **Product** view is active.

To browse to a correction

1 Open the **Current Corrections:** *view-name* node.

The resulting tree is now organized in alphabetical order, showing the product names.

2 To find product corrections, for example, for Natural, scroll down in the tree and select **Natural**.

All platforms for Natural are now shown in the tree.

3 Select a platform, for example **Unix**.

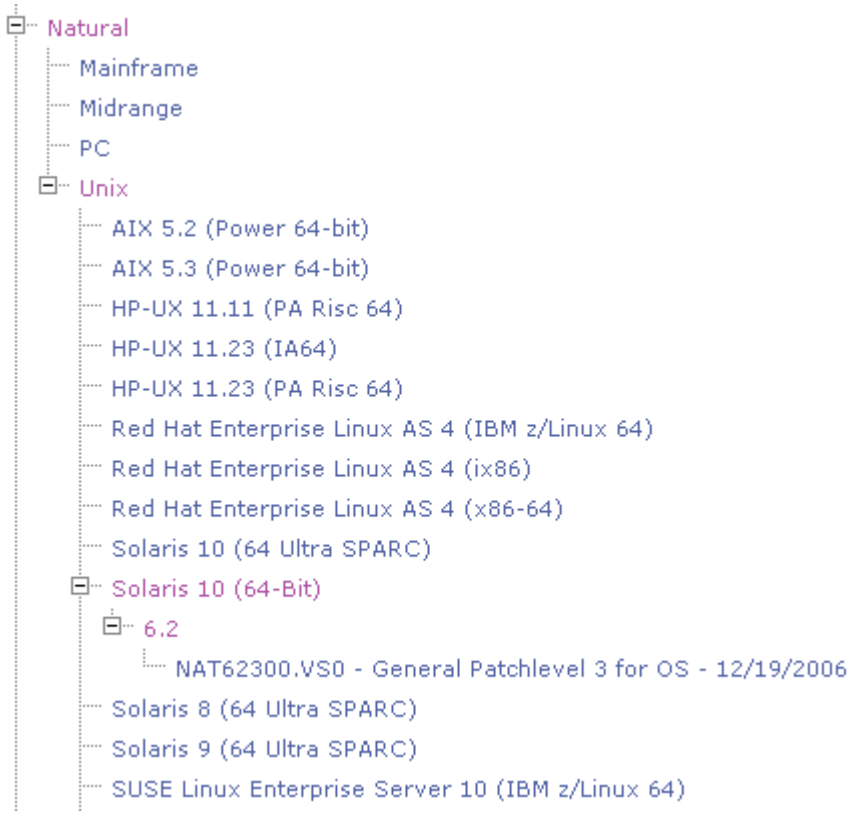
All operating system for which corrections are available are now shown in the tree.

4 Select an operating system, for example **Red Hat Enterprise Linux 9 x86-64**.

The versions for this operating system for which corrections are available are now shown in the tree.

5 Select a version, for example **9.3**.

Any corrections that are currently available for Natural Version 9.3 on Red Hat Enterprise Linux 9 x86-64 are now shown in the tree.



The tree shows the following information for each correction: correction ID, title and publishing date.

6 Select the correction in the tree.

Detailed information on the corresponding correction is now shown in the frame to the right.

For information on the contents of this page, see *Downloading Corrections*.

Searching for a Correction

You can search for a certain product correction using either the correction ID or the document ID. Or you can perform a full-text search; this invokes the function **Search The Knowledge Center** which is limited to corrections in this case.

To search for a correction using an ID

1 In the text box above the tree, enter one of the following:

- The correction ID. For example:

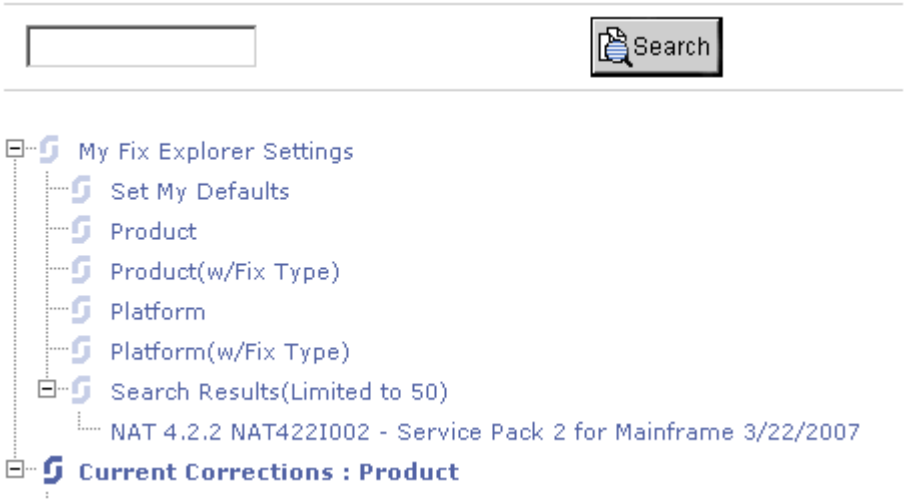
```
NAT422I002
```

- The document ID. For example:

```
289083
```

2 Choose the **Search** button.

The search result is shown in the tree, below the **Search Results** node. Example:



A search is automatically wildcarded so there is not need to include an asterisk (*) in a search. The search result is limited to 50 items.

3 Select the found correction in the tree.

Detailed information on the corresponding correction is now shown in the frame to the right.

For information on the contents of this page, see *Downloading Corrections*.

To perform a full-text search

1 In the text box above the tree, enter a search string which is either enclosed in single or double quotation marks. For example:

```
'load'
```

or

```
"load"
```

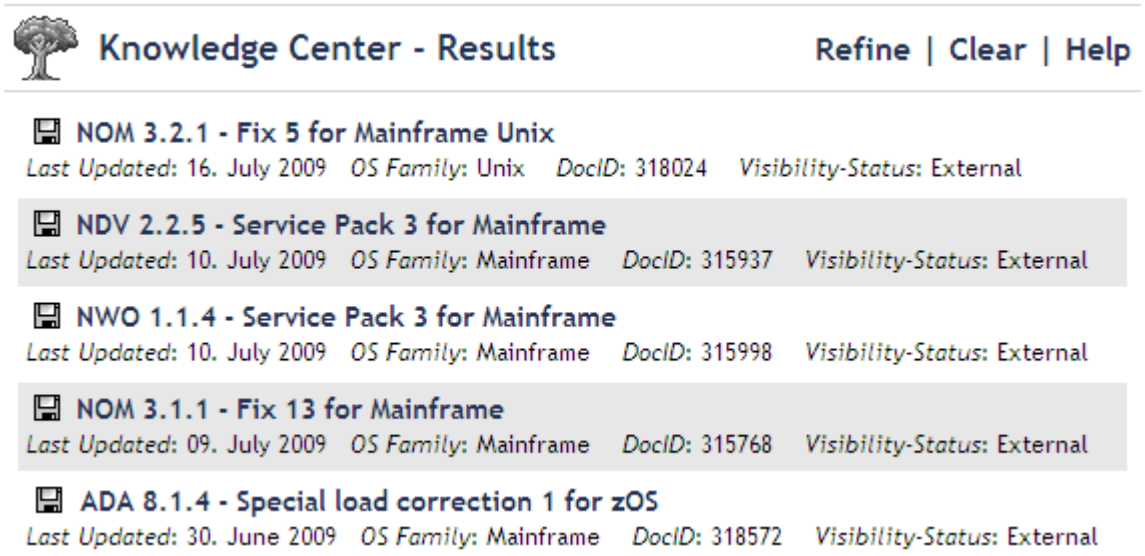
In both cases, it is possible to enter an asterisk (*) at the beginning and/or end of a word. Examples:

Search String	Found String(s)
load	load
load*	load loaded
*load	load unload
load	load loaded unload unloaded

When you do not use an asterisk (*), only an exact match of the specified word can be found.

2 Choose the **Search** button.

- **Single Quotation Marks**
  When your search string is enclosed in single quotation marks, the search result is shown in the frame to the right. For example:



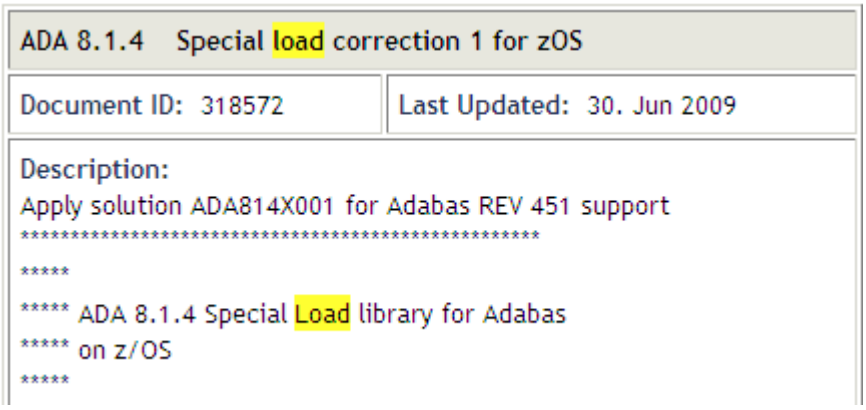
Note: A search form is provided at the very bottom of each page of the results list. If you want, you can now start a different search. See also *Searching the Knowledge Center*.

- **Double Quotation Marks**
  When your search string is enclosed in double quotation marks, the search result is shown in the tree, below the **Search Results** node. The search result is limited to 50 items. Example:



3 Select a found correction, either in the frame to the right or in the tree.

Detailed information on the corresponding correction is shown in the frame to the right. Each occurrence of the search string is highlighted. For example:



For information on the contents of this page, see *Downloading Corrections*.

5 Displaying an Overview of All Fixes

Using the Knowledge Center, you can display an overview of all fixes.

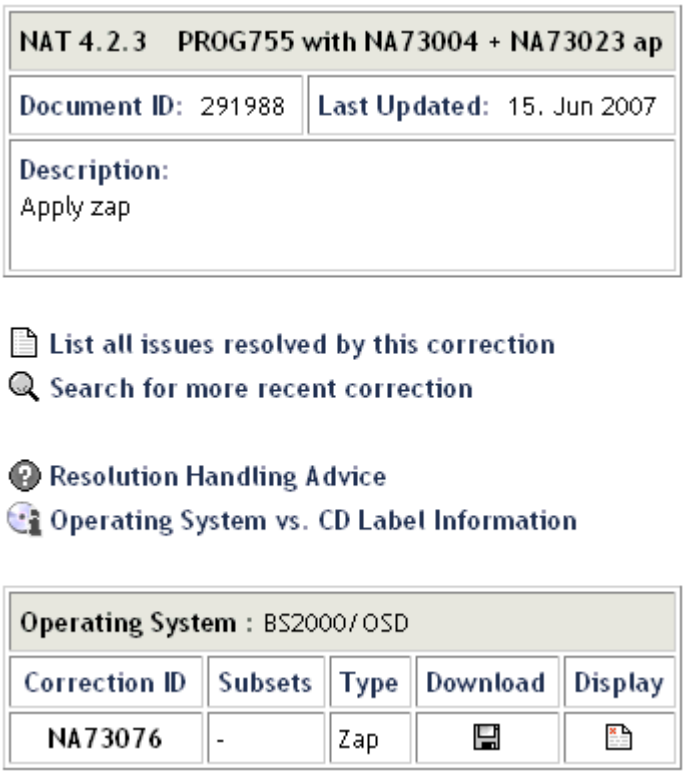
To access this overview, choose **All Fixes** from the left navigation bar.

The fixes are listed in alphabetical order by product in the right frame.

When you choose a link in the **Correction Type** column, information on this type of fix is shown and you can download the fix. For an explanation of the different correction types in this column (such as "Service Pack" or "All Zaps"), see *Document Types in the Knowledge Center*.

6 Downloading Corrections

When you have found a correction (for example, via the **Fix Explorer** or the **search form**), you can display detailed information on this correction. For example:



Each table which is shown for a correction contains a **Download** column and a **Display** column (you may have to scroll down in the correction description in order to see the tables). One or all of the followings icons may be shown in these columns:

Icon	Description
	Choose this icon to download the correction. **Note:** When an **Order Download** link is provided instead of an icon, the correction cannot be downloaded via Empower. In this case, you have to order the correction from Software AG. To do so, choose this link which invokes the order form.
	Only available for certain correction types (for example, Zap). If available, choose this icon to display the correction in text format.



Note: Mainframe corrections published after March 26, 2002 can consist of more than one individual data set. For example, a correction ID may consist of 3 subsets (a subset is a physical data set). All subsets are required for this specific correction and must be downloaded individually.

The following links are provided for a correction (in the middle of the page):

Link	Description
List all issues resolved by this correction	When you choose this link, a list of eService Knowledge Base articles is displayed. Each of these articles describes a specific product problem that can be solved by applying this correction. To display one of these articles, simply choose the document title.
Search for more recent correction	When you choose this link, you can find out whether this correction has also been used elsewhere, for example, in a more recent or cumulative fix.
Resolution Handling Advice	When you choose this link, the following part of this User's Guide is shown: *Resolution Handling Advice*.
Operating System vs. CD Label Information	When you choose this link, the following part of this User's Guide is shown: *Corrections on UNIX and PC: CD Label Information*.

For information on the links/icons that are provided at the top of the page, see *What is the Meaning of the Icons at the Top of a Document?*

7 Explanation of Icons

The following icons may be shown in a search result:

Icon	Document Type	Document ID
TP	Technical Paper	DOCID
EW	Early Warning	EWID
	Correction	CORRID; DOCID
	Invalid	

8 Finding Early Warnings

Using the Knowledge Center, you can access early warnings.

Early warnings contain corrections of errors, which may cause loss of data integrity or invalid results without an error message. Therefore, Software AG strongly recommends to immediately apply these corrections.

To access this information, choose **Early Warnings/Critical Alerts** from the left navigation bar.

The early warnings are listed in the right frame, in chronological order. The latest early warnings are shown at the top.

You can open an early warning by choosing its title.

At the bottom of the page, a search form is provided. You can use it to refine the search for early warnings (for example, to find all early warnings for a specific product which have been published in a certain time range). You can also access this search form using the **Search The Knowledge Center** link in the navigation bar. For further information, see *Searching the Knowledge Center*.

9 Finding Technical Papers

Using the Knowledge Center, you can access technical papers, that is: FAQs, technical hints, and descriptions as well as information on product migration.

To access this information, choose **Technical Papers** from the left navigation bar.

The technical papers are listed in the right frame, grouped by products.

You can search this area by choosing one of the links which are provided at the top of the page.

You can open a document by choosing its title.

10 Finding KB Articles

Using the Knowledge Center, you can access KB articles. KB articles are generally resolutions to problems encountered by other users.

You can open a document by choosing its title.

You can search this area from the **Search The Knowledge Center** page. For further information, see *Searching the Knowledge Center*.

II Resolution Handling Advice

The information in this part, which also belongs to the **Knowledge Center**, describes how to handle the different correction types. It is organized under the following headings:

Mainframe

Loading Fixes in BS2ZIP format to BS2000

Loading Binary Host Files to BS2000

Loading Binary Host Files to z/OS Using SAGNET Format

Loading Binary Host Files to z/OS Using XMIT Format

Loading Binary Host Files to VM/CMS (CMS for z/VM)

Loading Binary Host Files to z/VSE

Downloading and Transferring SMA Tables

SNTDECOD Error Messages

Non-Mainframe

Loading Binary Host Files to OpenVMS

Loading Binary Host Files to OS/400

Loading Resolutions for UNIX and PC Platforms

Information

Using Command Central or Software AG Update Manager to Install Fixes

Delivery of Natural CICS (NCI) Source Changes

FAQ: Handling of Resolutions/Fixes

Important Advice for Correction Installation

Applying a Natural INPL in a 24x7 Environment

Resolution References and Product Versions

Corrections on UNIX and PC: CD Label Information

Installing the IBM Virtual Tape Server for z/VSE

Special Characters in Zaps

Product Code Translation Table

Downloading LMS Libraries from Empower

Service Packs in INPL Format for Entire Systems Management Products

Change Concerning Conventions for our Mainframe Corrections

Downloading BS2000 Resolutions

This part of the User's Guide can also be accessed when you display the detailed description of a correction. See *Downloading Corrections*.

11 Loading Fixes in BS2ZIP format to BS2000

- Step 1: Download the ZIP File from Empower 44
- Step 2: Transfer the ZIP File from the PC to BS2000 44
- Step 3: Extract Files using BS2ZIP 45
- Step 4: Install with SMA 45

Software AG provides fixes for BS2000 in the ZIP format in addition to the SNTDECOD format. Follow these instructions to obtain a fix in BS2ZIP format.

Step 1: Download the ZIP File from Empower

The icon for BS2ZIP-format is to be found in the right column of the download field as shown in the following example table. The main difference to the SNTDECOD format is that several fix components (including SMA-tables) can be put into one data set for download.

Operating System	Fix File	Type	Download		Readme
BS2000/OSD	ALLIS99	Natload (Summary)			
	BS2L099	Load			

Step 2: Transfer the ZIP File from the PC to BS2000

After downloading the ZIP file from Empower, the file must be transferred to your BS2000 system.

On your PC you may have a look at the content of the file, but no further processing is possible there. The transfer of the ZIP file should be executed with FTP mandatory using binary format.

```
ftp>binary
ftp>quote ftyp binary
ftp>put pppvvv-BS2tnnn.ZIP
```

Where the name of the ZIP file (*pppvvv*-BS2t*nnn*.ZIP) consists of the following:

- *ppp*: productcode
- *vvv*: version
- t : type of fix
- *nnn*: number of fix

Contents of the ZIP file:

- *pppvvv*.*tnnn*: one or more files (NATLOAD-fixes, Loadlibs, etc.)
- *pppvvvtnnn*.TABS: SMA-Tables for this fix.

Please refer to the manual *BS2ZIP - Zip Archiving in BS2000* by Fujitsu to get more information about transferring ZIP files, e.g. if you would like to use openFT instead of FTP.

Step 3: Extract Files using BS2ZIP

To extract the files in BS2000, follow the instructions below:

```
/   START-ZIP-MANAGER
//     OPEN-ZIP-CONTAINER  CONTAINER = pppvvv-BS2tnnn.ZIP
//     EXTRACT-FILE
//     END
```

Step 4: Install with SMA

To install the fix extracted ZIP files

1 Load the SMA tables (file *pppvvvtnnn*.TABS) into SMA.

2 Invoke the function T (Tapes) in the SMA application.

3 Select '**Access datasets by Volser**'.

4 Enter the line command 'DA' (='datasets') for the volser SAGNET.

5 Enter the line command 'MA' (='mark for copy') for all datasets.

6 Press the PF3 key.

7 Enter the line command 'SE' for the volser SAGNET.

8 Proceed with the installation of the fixes as usual.

12 Loading Binary Host Files to BS2000

- What's New in SNT Version 1.1.3 for BS2000? 48
- Obtain the Decoding Program 48
- Download and Decode a Binary File 49
- Install the Correction 50
- Example - Output of Procedure P.SNTDECOD 51

Host product corrections of the type Natload (INPL), Errlodus (Error Messages), Load and Source replacements, Csmload and Csfload (CONSTRUCT modules and frames) are created in a format that does not lend itself to file transfer using PCs, so these files are loaded into Empower in a coded and compressed format.

What's New in SNT Version 1.1.3 for BS2000?

SNT113 is able to handle "coded" LMS libraries automatically. Therefore, the following changes were performed:

- **New module** `SNTDECOD`
  The module `SNTDECOD` replaces the modules `DECODISP` and `DECODSDF`.
- **Enhanced procedure** `P.START.DECOD`
  The procedure converts automatically all kind of corrections to the correct BS2000 data format. For more information, see the procedure itself.
- **Prerequisites**
  BS2000/OSD Version 2 and above,

  BS2000 program `PERCON` (in SDF syntax format).
- **Incompatibilites**
  Do not use program `SNTDECOD` with procedure `P.START.DECOD` of "older" SNT versions or of `SRV111.LIB`.
- **Restrictions**
  BS2000 LMS library corrections (so-called patch levels) are currently not supported by SMA.

In order to install such a file, proceed as described below.

Obtain the Decoding Program

This step needs to be done only once. You may either get the decoding program from tape or you can download it from Empower.

To order and install the product tape from Software AG

1 Order tape `SNT113/BS2000` from Software AG.

2 Install this tape with SMA.

This will just generate a copy from tape to an LMS library `SNT113.LIB`. This library contains the following members:

Type	Name	Function
(D)	#READ-ME.SNT	Readme file.
(J)	P.SNTDECOD	Procedure calling decoding program.
(R)	SNTDECOD	Decoding program with internal SDF syntax.

If you do not use SMA, refer to the "Report of Tape Creation" which is delivered together with this tape. There you will find a detailed description how to copy Software AG product data sets from tape to disk.

To download and install the decoding program from Empower

1 Download the Zip file that contains the decoding software for this operating system. To access this file, choose **Products** in the left navigation bar and then choose **Download Components**. In the resulting page, choose the link **SNTDECOD**.

2 Use a file transfer system which is available for your local PC-to-host connection to upload this file from your PC to your host.

Example - execute the FTP using the following commands:

```
binary
literal ftyp binary
literal file snt113.lib,fcbtype=pam,blksize=(std,2)
put snt113.lib
```

Download and Decode a Binary File

If you encounter a problem description in Empower which has a binary file as its attached solution, proceed as follows:

1. Click on the download icon in order to download the solution file from the Empower server to your PC.
2. Use a file transfer system to upload the solution file from your PC to the host. Make sure to use your file transfer system in binary, untranslated mode.

Example - execute the FTP using the following parameters:

```
binary
literal ftyp binary
literal file
sagnet.out,recsize=80,recform=f,blksize=(std,1),open=update,fcbtype=sam
put sagnet.in sagnet.out
```

As an alternative, if you have the SAG products Entire System Server, Entire Connection and Natural available, you can use the downloadable example mentioned above instead of an FTP from another vendor.

3. Now run procedure `SNT113.LIB(P.SNTDECOD)`.

   Run this procedure within the user ID where your SAG product data sets are located (see `LIBGROUP` parameter in SMA parameter group `BASIC`). Within this procedure, the parameter `&INPUT-FILE` refers to the data set created in step 2.

   The following output files are generated:

   - **Sequential Files**
     a. An installable solution file, for example, `NAT316.IS02`.
     b. An input to `SMA LOAD` describing this solution, for example, `NAT316.IS02.TABS`.
   - **LMS Libraries**
     a. A sequential file, for example, `APS232.BS2L015`.
     b. An input to `SMA LOAD` describing this solution, for example, `APS232.BS2L015.TABS` (there is currently no SMA support available for these correction files).
     c. An LMS library, for example, `APS232.L015`.

Install the Correction

- **Without SMA**
  Most of the binary host files you will encounter in Empower are INPL corrections.

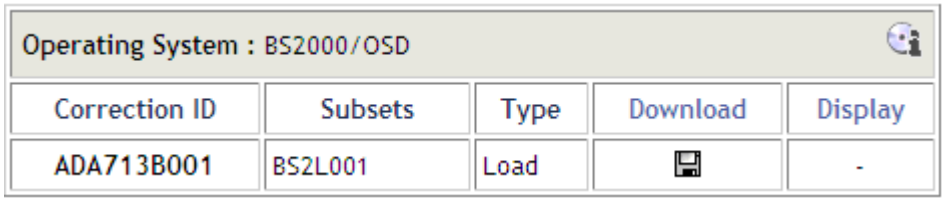
  If you are not using SMA, run a job like `E.I061` which uses procedure `P.NAT` to load the modified Natural objects into your Natural system file.

  For other correction types, the problem description document will describe the installation of the correction.

- **With SMA**
  If you are using SMA, you may run the `SMA LOAD` utility with the second output file which has been created when running the procedure (see above). Use procedure `P.TABLOAD` as usual.

  All correction data sets are documented in the `TAPE` administration part of SMA. Corrective IUPDs (INPLs, ERRNs) can be installed using SMA.

Example - Output of Procedure P.SNTDECOD



Operating System : BS2000/OSD

Correction ID	Subsets	Type	Download	Display
ADA713B001	BS2L001	Load		-

If you unload this correction from Empower to your PC and transfer it to your BS2000 host as described above, you can convert it into a BS2000 library using the following BS2000 command:

```
/CALL-PROCEDURE(SNT113.LIB,P.SNTDECOD), (INPUT-FILE=ADA713B001-BS2L001.SNT)
```

The following output will be displayed:

- Output of procedure `P.SNTDECOD` (green color).
- Output of program `SNTDECOD` (blue color).
- Output of BS2000 (black color).

13 Loading Binary Host Files to z/OS Using SAGNET Format

- Obtain and Install the Decoding Program from Software AG 54
- Download and Decode a Binary Correction 57
- Install the Correction 60

Host product corrections of the type Natload (INPL), Errlodus (Error Messages), LOAD and SOURCE replacements, TAR (Tape ARchive), CPIO (CoPy file archives In and Out), Csmload and Csfload (Construct modules and frames) are created in a format that does not lend itself to file transfer using PCs. So these files are loaded into Empower in a coded and compressed format.

These were created using the IBM utility IEBCOPY (termed unloading). Once decoded, use the IEBCOPY utility to load the data set.

Please note, that SNT11x is used instead of the current version/release (e.g. SNT112).

The steps below should be done to apply one of these fixes.

Obtain and Install the Decoding Program from Software AG

You have 2 options:

- Order a Tape SNT11x from Software AG
- Download and Install the Decoding Program from Empower

Order a Tape SNT11x from Software AG

The SNT11x tape contains the following libraries and members:

Name	Library	Function
SNTDECOD	SNT11x.LOAD	The decoding program.
README	SNT11x.SRCE	Readme file.
RUNDECOD	SNT11x.SRCE	Sample job for decoding a file.

Copying the Tape Contents to Disk

If you are using System Maintenance Aid (SMA), refer to the SMA documentation.

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.

If the data sets for more than one product are delivered on the tape, the data set COPY.JOB contains the JCL to unload the data sets for all delivered products from the tape to your disk.

After that, you will have to perform the individual installation 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:

<Tnnnnn> is the tape number
<hilev> is a valid high level qualifier
<vvvvvv> is the desired volser

Step 2 - Modify COPY.JOB

Modify the COPY.JOB to conform with your local naming conventions and set the disk space parameters before submitting 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.

Download and Install the Decoding Program from Empower

1. Download the Zip file that contains the decoding software for this operating system. To access this file, choose **Products & Documentation** in the left navigation bar and then choose **Download Components**. In the resulting page, choose the link **SNTDECOD**.
2. Use a file transfer system (FTP) to create the PDS and upload `sntdecod` from your PC to the host. The file transfer must be done in binary, untranslated mode.

   Sample FTP stream:

```
open host
userid
password
bin
quote site filetype=seq
quote site recfm=fb
quote site lrecl=80
quote site blksize=400
quote site volume=volser
quote site unit=3390
quote site tracks
quote site primary=30
quote site secondary=30
quote site directory=45
quote MKD SAG.OBJECT
cd SAG.OBJECT
put SNTDECOD
close
bye
```

3. Link the member as an executable program.

```
//LNKSNT JOB SAG,CLASS=G,MSGCLASS=X
//*
//LKD2 EXEC PGM=IEWL,REGION=700K,
//   PARM=('XREF,LIST,LET,NCAL,SIZE=(512K,48K)')
//SYSLMOD  DD DISP=SHR,DSN=SAG.SNT.LOAD
//IN       DD DSN=SAG.OBJECT,DISP=SHR
//SYSUT1   DD UNIT=SYSDA,DISP=(,PASS),SPACE=(TRK,(70,35),,CONTIG)
//SYSPRINT DD SYSOUT=*
//SYSLIN   DD *
 INCLUDE IN(SNTDECOD)
 ENTRY MAIN
 NAME SNTDECOD(R)
```

```
/*
//
```

Download and Decode a Binary Correction

The following topics are covered below:

- Download the Binary Correction
- Decode the Binary Correction
- Restore Load and Source Partitioned Data Sets (PDS and PDSE)

Download the Binary Correction

1. In Empower select **Products & Documentation > Download Components**. Click on the **SNTDECOD** link and click on the **SNTDECOD 1.1x** link for z/OS.
2. Rename the downloaded correction to a name with a maximum length of 8 characters. The correction used in this sample is `CST451P3`.
3. Use FTP to create the PDS and transfer the solution file from your PC to the host. The file must be transfered to the host in binary, untranslated mode. The file must reside on the host as fixed block, record length of 80 and blocksize 6000 (or any multiple of 80).

   Sample FTP stream:

```
open host
userid
password
bin
quote site filetype=seq
quote site recfm=fb
quote site lrecl=80
quote site blksize=6000
quote site volume=volser
quote site unit=3390
quote site tracks
quote site primary=50
quote site secondary=25
quote site directory=45
quote MKD SAG.FIX
cd SAG.FIX
put CST451P3
close
bye
```

4. Now browse the host file to check whether it is correct. The first 3 lines should be readable and the last line should contain the words "Last Record". It should look similar to the folowing:

```
****** ***************************** top of data *****

000001 I111105
000002 C(C) Software AG, , Tue Mar 2 11:08:23 2004?
000003 TFRZ.CST451.ALLMS03,VB,4628,4624

...

000054 ???\?F???c?'????????
000055 E ???? .@Last Record

****** **************************** bottom of data ***** ↩
```

Decode the Binary Correction

Run the SNTDECOD job.

The following example job decodes an INPL fix. For other types of fixes, the DCB parameter may have to be changed, see the explanations below. This job should be adapted to your environment, especially the following parameters:

Parameter	Description
INFILE	This is the fix which has been downloaded as the binary correction.
OUTFILE	This will become the decoded output file. In our example above it is: TFRZ.CST451.ALLMS03,VB,4628,4624 This file information also appears on the report produced by the decoding program SNTDECOD.
SMAOUT	Specifies the name of an SMA file which will be created and which contains SMA tables. These tables can be used to install the correction. This parameter can be omitted if you are not using SMA.
STEPLIB	PDS where SNTDECOD resides.
VOLSER	Volser for the SMAOUT and OUTFILE data sets.
UNIT	Unit for the SMAOUT and OUTFILE data sets
DCB	DCB for the OUTFILE data set. This value depends on the type of correction that you downloaded.

Correction Type	DCB Information
Natural INPL Natural Error Messages Construct Frames Construct Models	RECFM=VB, BLKSIZE=4628, LRECL=4624
LOAD Modules SOURCE Replacements	RECFM=VS, BLKSIZE=6467, LRECL=6463
CPIO TAR	RECFM=VB, BLKSIZE=3000, LRECL=2996

Parameter	Description	
	SMPL	RECFM=VS, BLKSIZE=6487, LRECL=6483

```
//SNTDECOD JOB CLASS=G,MSGCLASS=X
//* ================================================================
//* SAGNET DECODE
//* ================================================================
// SET INFILE='SAG.FIX(CST451P3)'
// SET OUTFILE='TFRZ.CST451.ALLMS03'
// SET SMAOUT='SAG.SMAOUT'
// SET STEPLIB='SAG.SNT.LOAD'
// SET VOLSER=USR006
// SET UNIT=3390
//*
//* -- 1) DCB FOR INPL DATA SETS
// SET DCB='(RECFM=VB,BLKSIZE=4628,LRECL=4624)'
//*
//* -- 2) DCB FOR LOAD AND SOURCE REPLACEMENTS
//* SET DCB='(RECFM=VS,BLKSIZE=6467,LRECL=6463)'
//*
//* -- 3) TAR (TAPE ARCHIVE) AND CPIO
//* SET DCB='(RECFM=VB,BLKSIZE=3000,LRECL=2996)'
//*
//* -- 4) SMPL (Compressed Sample File)
//* SET DCB='(RECFM=VS,BLKSIZE=6487,LRECL=6483)'
//* ================================================================
//SNTDEC   EXEC PGM=SNTDECOD
//STEPLIB  DD DSN=&STEPLIB,DISP=SHR
//SNTCOD   DD DISP=SHR,DSN=&INFILE
//*
//SNTOUT   DD DSN=&OUTFILE,DISP=(NEW,CATLG),
//   VOL=SER=&VOLSER,SPACE=(CYL,(10,5),RLSE),UNIT=&UNIT,
//   DCB=&DCB
//*
//SMAOUT   DD DSN=&SMAOUT,DISP=(NEW,CATLG),
//   VOL=SER=&VOLSER,SPACE=(TRK,5,RLSE),UNIT=&UNIT,
//   DCB=(RECFM=FB,LRECL=80,BLKSIZE=6000)
//*
//SYSPRINT DD SYSOUT=*
//SYSTERM  DD SYSOUT=*
//STDERR   DD SYSOUT=*
//STDOUT   DD SYSOUT=*
//
```

Restore Load and Source Partitioned Data Sets (PDS and PDSE)

You only need this step, if you downloaded Load or Source correction library replacements.

You need to restore the SNTOUT file to a partitioned data set using the IBM utility IEBCOPY (termed loading).

Sample job:

```
//LOADPDS  JOB CLASS=G,MSGCLASS=X
//* ============================================
//* RESTORE TO PARTITIONED DATA SET
//* ============================================
// SET OUTFILE='TFRZ.EXB721.L001'
// SET INFILE='TFRZ.EXB721.MVSL001'
// SET VOLSER=USR006
// SET UNIT=3390
//*
//* -- Use LIBRARY to restore a PDSE (POE) data set
// SET TYPE=LIBRARY
//* -- Use PDS to restore a PDS (PO) data set
//* SET TYPE=PDS
//*
//* ============================================
//LOAD     EXEC PGM=IEBCOPY
//SYSUT1   DD DSN=&INFILE,DISP=SHR
//SYSUT2   DD DSN=&OUTFILE,DISP=(NEW,CATLG),UNIT=&UNIT,
//      VOL=SER=&VOLSER,SPACE=(CYL,(20,20,60),RLSE),
//      DCB=DSORG=PO,DSNTYPE=&TYPE
//SYSUT3   DD UNIT=&UNIT,SPACE=(TRK,(2,2))
//SYSIN    DD DUMMY
//SYSPRINT DD SYSOUT=*
//
```

Install the Correction

The following topics are covered below:

- SMA Sites

- Non-SMA Sites

SMA Sites

Run a TABLOAD job using the file that was created when decoding the binary correction (see SMAOUT above). This file should be specified on the CMWKF01 DD card.

The fix can be installed using the standard SMA procedures.

All correction data sets are documented in the TAPE administration part of SMA.

Corrective IUPDs (INPLs, ERRNs) can be installed using SMA.

Non-SMA Sites

Install the correction as described in the problem document. In most cases, this is an INPL file. You will need to run a standard batch Natural job such as the I061 job.

The file that was created when decoding the binary correction (see OUTFILE above) should be specified as input for CMWKF01 and STACK=INPL as a parameter.

For other correction types, the problem description document will describe the installation of the correction.

14 Loading Binary Host Files to z/OS Using XMIT Format

- Step 1: Download the ZIP File from Empower 64
- Step 2: Unpack the ZIP File 64
- Step 3: Transfer the Fix Files from the PC to z/OS 64
- Step 4: Extract File using XMIT 65
- Step 5: Install with SMA 66

Software AG provides fixes for z/OS in the XMIT format packed inside a ZIP file. The new format replaces the old SNTDECOD format. Follow these instructions to obtain a fix in XMIT format.

Step 1: Download the ZIP File from Empower

Locate the files in the download table as shown below. First, open the README file by clicking the **Open** icon and read the installation instructions carefully. Then, download the ZIP package using the **Download** button in the rightmost **Download** column for the ZIP file entry.

Fix File	Type	Size	Download
NAT924I007_MVS_README	Text/plain	4.5 KB	Open Download
NAT924I007-ALLIS07	Application/octet-stream	4.2 MB	Download

Step 2: Unpack the ZIP File

After downloading the ZIP file, extract its contents to a local directory using your operating system's built-in ZIP extraction tool.

Step 3: Transfer the Fix Files from the PC to z/OS

After extracting the ZIP files from Empower, transfer the XMIT files and associated SMA tables to your z/OS system. The transfer must be performed with FTP in binary mode to prevent data corruption.

```
open <HOST>
<USER>
<PASSWORD>
quote site recfm=fb lrecl=80 blksize=3120
binary
put <CD-DRIVE>:/pppvvv-tnnn.XMIT '<HLQ>.pppvvv.tnnn.XMIT'
bye ↩
```

Where

- *ppp*: product code
- *vvv*: version
- *t*: fix type

- *nnn*: fix number

Dataset Allocation Parameters

The XMIT file and SMA tables require different attributes to ensure the correct record layout.

XMIT File

```
RECFM=FB
 LRECL=80
BLKSIZE= 3120
```

SMA Table

```
RECFM=FB
 LRECL=80
BLKSIZE= 800
```

Step 4: Extract File using XMIT

To extract the file in z/OS, follow the JCL below:

```
//<JOBNAME>  JOB CLASS=<CLS>,…
//*--------------------------------------
//* Restore XMIT file
//*--------------------------------------
//INP     SET INP= <HLQ>.pppvvv.tnnn.XMIT
//OUT     SET OUT= <HLQ>.pppvvv.tnnn
//*--------------------------------------
//         EXPORT SYMLIST=(INP,OUT)
//PRCV     PROC INP=,OUT=
//RCV      EXEC PGM=IKJEFT01
//SYSPRINT DD   SYSOUT=*
//SYSTSPRT DD   SYSOUT=*
//SYSTSIN  DD   *,SYMBOLS=(JCLONLY)
 RECEIVE INDSN('&INP')
 DSNAME('&OUT') NEW
//RCVX     PEND
//* --------------------------------------
//RCV00    EXEC PRCV,INP=&INP,OUT=&OUT
//
```

After the restore, the resulting dataset will be either a PS (Sequential) dataset or a PDS (Partitioned) dataset, depending on the fix type.

Step 5: Install with SMA

Run a `TABLOAD` job using the file that was transferred in **step 3** above. This file should be specified on the `CMWKF01 DD` card.

The fix can be installed using the standard SMA procedures.

15 Loading Binary Host Files to VM/CMS (CMS for z/VM)

- Obtain and Install the Decoding Program 68
- Download and Decode a Binary File 69
- Install the Correction 69

Host product corrections of the type Natload (INPL), Errlodus (Error Messages), Load and Source replacements, Csmload and Csfload (Construct modules and frames) are created in a format that does not lend itself to file transfer using PCs, so these files are loaded into Empower in a coded and compressed format.

Please note, that SNT11x is used instead of the current version/release (e.g. SNT112).

The steps below should be used to apply one of these fixes.

Obtain and Install the Decoding Program

1. Order tape SNT11x VM/CMS from Software AG.

   This tape contains the following files:

Name	Function
VMREADME DOC	Readme file.
SNTDECOD MODULE	The decoding program.
LSCRTL LOADLIB	The C-transient library.
SAGNET EXEC	An EXEC to invoke the decoding program.

   The SNTDECOD module is installed on the mainframe and is used to convert the coded, decompressed file from Empower into a standard INPL file.

2. Install the tape.

   Reserve a minidisk for Empower. In this example, we will access it as "b" and copy the tape to this disk with the following commands.

   Position the tape to the file SNT11x.TAPE:

```
TAPE FSF <fsf>
```

   If the sequence number of SNT11x.TAPE as shown on the REPORT OF TAPE CREATION is "n", you must position over 3n-2 tape marks (that is, FSF 1 for the first data set).

   Load the contents onto your minidisk:

```
TAPE LOAD * * B ↩
```

Download and Decode a Binary File

If you encounter a problem description in Empower which has a binary file as its attached solution, proceed as follows:

1. Choose the download icon in order to download the solution file from the Empower server to your PC.
2. Use a file transfer system which is available for your local PC to host connection to upload this file from your PC to your host.

   The file must be uploaded to the host in binary, untranslated mode.

   Use `filel` to verify that the uploaded file has RECFM F and LRECL 80.

   Note: Use F80 EXEC if RECFM not F or LRECL not 80.

3. Run the `SAGNET EXEC`. You will be prompted for the name of the coded file. This EXEC assumes the following naming conventions for the files:

   `<file-name>` CODED * The coded file from Empower
   `<file-name>` HOST A The decoded output file.

Install the Correction

Install the correction as described in the problem document.

In most cases, this is an INPL file. You will need to run a standard batch Natural with the output file created by the SAGNET EXEC as input for `CMWKF01` and `STACK=INPL` as a parameter.

16 Loading Binary Host Files to z/VSE

- Obtain and Install the Decoding Program 72
- Download and Decode a Host Product Correction from Empower 74
- Install the Correction 75
- Samples for File Transfer 75
- Handling DOSLIBR Corrections 78

Host product corrections of the type Natload (INPL) and Errlodus (Error Messages) are created in a format that does not lend itself to file transfer using PCs. So these files are loaded into Empower in a coded and compressed format.

Host product corrections of the type DOSLIBR are created in a format that gives the possibility to load the correction directly from the PC into the z/VSE library via virtual tape support. So these files are loaded into Empower in AWS format.

Note: Please note, that SNT11x is used instead of the current version/release (e.g. SNT112).

The steps below should be used to apply one of these fixes.

Obtain and Install the Decoding Program

You may either get the decoding program from tape or you can download it from Empower.

To get the decoding program from tape

1 Order tape SNT112/VSE from Software AG.

This tape contains the SNT112 sublibrary. The SNT112 sublibrary contains the following members:

Name	Function
SNTDECOD.J	Sample job for decoding a file.
README.A	Readme file.
INPLDISK.J	Sample job for loading the SMA skeleton.
SNTDECOD.PHASE	The decoding program.

2 SMA sites - install the tape using SMA.

Perform a TABLOAD using the first file on the tape as the CMWKF01 input and install product SNT112.

SMA will generate a copy of the SNT112 sublibrary into your SAG product library.

3 SMA sites - load the INPLDISK skeleton.

Adapt and run job INPLDISK to load the new skeleton INPLDISK into your SMA environment.

4 Non-SMA sites - install the tape.

Sample JCL to install the sublibrary:

```
// JOB RESTORE
// ASSGN SYS006,cuu,VOL=xxxxxx
// MTC REW,SYS006
// MTC FSF,SYS006,nn
// EXEC LIBR
RESTORE S=SAGLIB.SNT112:SAGLIB.SNT112 -
        TAPE=SYS006 -
        REPLACE=NO
/*
/&
```

where *xxxxxx* is the volume serial number and *nn* is the file sequence number as found on the REPORT OF TAPE CREATION.

To download and install the decoding program from Empower

1 Download the Zip file that contains the decoding software for this operating system. To access this file, choose **Products** in the left navigation bar and then choose **Download Components**. In the resulting page, choose the link **SNTDECOD**.

The Zip file contains the following members:

Name	Function
SNTDECOD.J	Sample job for decoding a file.
README.A	Readme file.
LNKEDT.J	Job for linking the SNTDECOD OBJ.
SNTDECOD.OBJ	The decoding object module.

2 Unzip the file and use a file transfer system which is available for your local PC-to-host connection to upload this file from your PC to your VSE host.

Upload the files to a LIBR sublibrary like SAGLIB.SNT112 in binary mode.

The SNTDECOD.OBJ file must be done in binary, untranslated mode.

3 Link the member as an executable program.

Use the sample LNKEDT.J JCL to link the SNTDECOD module.

Download and Decode a Host Product Correction from Empower

If the solution of your problem is a binary file (INPL or ERRN) in Empower, you can get it as follows:

1. Choose the download icon in Empower in order to download the solution file from the Empower server to your PC.
2. Use a file transfer system to upload the solution file from your PC to the host.

   The file *must* be uploaded to the host in binary mode. The file must reside on the host as a fixed block, record length of 80.

   Now browse the host file to check whether it is correct. It should look like this:

```
****** ***************************** top of data *****
         000001 I111105
         000002 C(C) Software AG, , Thu Nov 15 15:54:42 2001?
         000003 TFRZ.AOS713.ALLI001,VB,4628,4624
         ...
         ...
         ...
         002650 E   ??LÄ ?.ïLast Record
****** **************************** bottom of data ***** ↩
```

   The first 3 lines should be readable. The last line should contain the words "Last Record".
3. Run the `SNTDECOD` job.

   This job should be adapted to your environment.

   This job has two output files:

   - `SNTOUT`
     The decoded binary host file.

     This file is specified on the SNTOUT DLBL CARD
   - `SMAOUT`
     The input file to the `SMA TABLOAD`.

     This file is specified on the SMAOUT DLBL card.

     This DLBL card can be omitted if you are not using SMA.

Install the Correction

SMA Sites

Run a `TABLOAD` job using the output file `SMAOUT` created above. This file should be specified on the `CMWKF01 DD` card.

The fix can be installed using the standard SMA procedures.

Non-SMA Sites

Install the correction as described in the problem document.

In most cases, this is an INPL file. You will need to run a standard batch Natural job such as the I061 job. The output file `SNTOUT` created above should be specified as input for `CMWKF01` and `STACK=INPL` as a parameter.

Samples for File Transfer

There are many ways to install and operate a file transfer. In the following we want to describe three possibilities: one based on the Software AG products Entire Connection and Entire System Server, one based on IBM's SEND/RECEIVE, and one based on FTP.

The following topics are covered below:

- File Transfer Using Software AG Products
- File Transfer Using SEND/RECEIVE from IBM
- File Transfer using FTP

File Transfer Using Software AG Products

Software AG does not offer a file transfer product presently, but you can use the technology from Software AG to implement your own file transfer.

Prerequisites:

Entire Connection and Entire System Server (formerly called Natural Process) must be installed.

Preparation:

1. Allocate a sequential file on one of your VSE disks. The size of the file must be big enough to contain the INPL.

2. Copy the example upload program `UPLOAD` into your Natural and adapt it for your needs.

Execution:

1. Download the correction file from Empower to your PC as described above.
2. Execute the program `UPLOAD` to copy the file from the PC to VSE.

Once the file has been copied from the PC to the host, continue with decompressing and installing the correction as described above with step 3 of ***Download and Decode a Host Product Correction from Empower***.

File Transfer Using SEND/RECEIVE from IBM

VSE offers all needed host components to do a file transfer from PC. The procedure described below is somewhat longwinded, since this file transfer works from PC to the proprietary HTF file only.

Prerequisites:

- Standard VSE/SP or later.
- CICS must be available.
- The IUI (Interactive User Interface) must be active. IWS (intelligent workstation support) must be enabled.
- Your 3270 emulation product on your PC must be able to support the *SEND.EXE* program.

Execution:

1. Download the correction file from Empower to your PC as described above.
2. Enter CICS. This should bring you into the entry menu for IUI.
3. Select **Operation**.
4. Select **Personal Computer Move Utilities**.
5. Select **PC File Transfer**, then switch to PC mode and initiate the file transfer using *SEND.EXE*.

Refer to the documentation of your PC software for details on how to use *SEND.EXE*. It is important that you use the correct transfer options:

- No translation of CR/LF.
- Binary transfer, with no ASCII translation.
- LRECL must be 80.
- Select **List and Process User Files in HTF**.
- Fill in the file selection parameters.
- Mark the new file with "8" (Move to ICCF).

- Fill in **ICCF Member Name** and **ICCF Lib.-Number** and copy from the HTF file into this ICCF library member.
- Execute `REPRO` to copy from this ICCF library into a sequential file using the JCL below.

We suggest that you incorporate this JCL in your job `SNTDECOD.J` as the first step.

```
* ********************************
* COPY CARD INPUT TO DISK        *
* ********************************
// ASSGN SYS005,DISK,VOL=VVVVVV,SHR  <=== enter Volser of target file
// DLBL DISKFIL,'SNT.XXXXXXXX.CODED',0,SD <=== enter DSN of target file
// EXTENT SYS005,VVVVVV,,,XXXXX,XXXXX <=== enter extent of target file
// EXEC IDCAMS,SIZE=AUTO
REPRO -
OUTFILE -
( DISKFIL -
ENV ( BLKSZ(6000) RECFM(FB) -
RECSZ(80) ) ) -
INFILE -
( SYSIPT)
* $$ SLI ICCF=(mmmmmm),LIB=(11) <=== enter the member name and
/*
                         the library number
/&
* $$ EOJ ↩
```

Once the file has been copied from the PC to the host, continue with decompressing and installing the correction as described above with step 3 of *Download and Decode a Host Product Correction from Empower*.

File Transfer using FTP

Prerequisite:

FTP on VSE/ESA. Prepare FTP startup job and INIT file.

Sample:

The TCP/IP startup job must have a DLBL card like this:

```
// DLBL SNTFILE,'SNT.UPLOAD.FILE',2099/365,SD
// EXTENT SYS049,DAVC04,1,0,255,150
// ASSGN SYS049,DISK,VOL=DAVC04,SHR   ↩
```

The size of the file must be big enough to contain the INPL. The INIT-FILE used at the `EXEC IPNET` must have a additional File statement, like:

```
DEFINE FILE,PUBLIC='SNTFILE',DLBL=SNTFILE,TYPE=SAM
```

Tools for using FTP on the PC are:

- DOS box
- WS_FTP
- Netscape

Handling DOSLIBR Corrections

DOSLIBR corrections are provided in a format that can be addressed as a "virtual tape".

Prerequisite:

You should first install the virtual tape support on your VSE machine and on your PC. See ***Installing the IBM Virtual Tape Server for z/VSE*** for further information.

The following topics are covered below:

- Installation Using SMA
- Installation Without SMA
- Contents of the Downloaded File

Installation Using SMA

1. Adapt the sample JCL `VSE_Tabload` and run it in your VSE machine.

```
* $$ JOB JNM=TABLOAD,CLASS=A,DISP=D
* $$ LST CLASS=A,DISP=D,DEST=(,uid)
// JOB TABLOAD
// LIBDEF PHASE,SEARCH=(SAGLIB.USRLIB,SAGLIB.ADA742,                  X
               SAGLIB.NAT413),TEMP
DVCDN cuu
VTAPE START,UNIT=cuu,LOC=pc-ip address:2386,                          X
               FILE='C:/ SAG.Solution-id',READ
DVCUP cuu
/*
// ASSGN SYS001,cuu
// MTC REW,SYS001
// TLBL CMWKF01,'SMT111.TABS',,,,1
// ASSGN SYS000,READER
// ASSGN SYS041,SYSLST
// ASSGN SYS042,SYSLST
// ASSGN SYS043,SYSLST
// DLBL CMEDIT,'SAGLIB.BATCH.EDITWORK',,VSAM,CAT=VSESPUC
// EXEC NAT413BA,SIZE=NAT413BA,PARM='SYSRDR'
```

```
WORK=((1),AM=STD,RECFM=FB,BLKSIZE=6000)
BPI=(TYPE=EDIT,SEQ=0,SIZE=512,NAME='  ')
IM=D,MADIO=0,MT=0,OBJIN=R,MENU=OFF
AUTO=OFF,DLISIZE=0,ET=ON
/*
ADARUN DB=dbid,DEVICE=3390,SVC=45,MODE=MULTI
/*
LOGON SYSSMA1
MENU
LOAD
FIN
/*
DVCDN cuu
VTAPE STOP,UNIT=cuu
DVCUP cuu
/&
* $$ EOJ
```

2. Install the products as usual.

Installation Without SMA

1. Adapt and run the `JCLTODSK` job to save the `COPYTAPE.JOB` to a SD file on your system.

```
* $$ JOB JNM=JCLTODSK,DISP=D,CLASS=A
* $$ LST DISP=D,CLASS=A,DEST=(,uid)
// JOB JCLTODSK
* ******************************************************
*      COPY JCL COPYTAPE.JOB TO SEQUENTIAL DISC
* ******************************************************
DVCDN cuu
VTAPE START,UNIT=cuu,LOC=pc-ip address:2386,                          X
               FILE='C:/SAG.Solution-id',READ
DVCUP cuu
/*
// ASSGN SYS004,cuu
// MTC REW,SYS004
// TLBL TAPEFIL,'COPYTAPE.JOB',,,,2
// ASSGN SYS005,DISK,VOL=VVVVVV,SHR
// DLBL DISKFIL,'COPYTAPE.JOB',0,SD
// EXTENT SYS005,VVVVVV,1,0,strk,ntrk
// EXEC IDCAMS,SIZE=AUTO
REPRO                                                  -
   INFILE                                               -
     ( TAPEFIL                                          -
       ENV ( BLKSZ(80) RECFM(F) RECSZ(80) -
             PDEV(2400) STDLABEL NOREWIND )    )        -
   OUTFILE                                              -
     ( DISKFIL                                          -
       ENV ( BLKSZ(80) RECFM(FB)                -
             RECSZ(80)  )    )
```

```
/*
DVCDN cuu
VTAPE STOP,UNIT=cuu
DVCUP cuu
/*
/&
* $$ EOJ
```

2. Adapt the `COPYTAPE.JOB` to suit your VSE environment.
3. Run it in your VSE machine to restore the product libraries.

Contents of the Downloaded File

Name	Function
`SMT111.TABS`	z/VSE System Maintenance Aid tables.
`COPYTAPE.JOB`	JCL for unload data sets on disk without SMA.
Product correction	Correction file in librarian format.

17 Downloading and Transferring SMA Tables

- General Information 82
- Transferring SMA Tables from a PC to a z/OS Host Using FTP 82
- Transferring SMA Tables from a PC to a z/VSE Host Using FTP 83
- Transferring SMA Tables from a PC to a BS2000/OSD Host Using FTP 84

General Information

The names of all downloaded SMA tables are composed as follows:

```
pppvrs.BIN
```

ppp represents the three-character product code of the Software AG product (for example, "ADA" for Adabas, "NAT" for Natural, or "WCP" for Entire Net-Work).

vrs represents the version number of the Software AG product.

Caution: Using utilities instead of native FTP commands for transferring the SMA tables may corrupt the SMA tables.

During the product installation on the mainframe, the SMA tables are loaded and processed as required by your Software AG mainframe product. For further information, refer to the installation documentation for your Software AG mainframe product.

Transferring SMA Tables from a PC to a z/OS Host Using FTP

Important: Make sure to switch to binary transfer and verify that the resulting data set has `RECFM=FB` and `LRECL=80`.

To transfer SMA tables from a PC to a z/OS host

1 Download the SMA tables (*pppvrs*`.BIN`) to your PC's hard disk.

2 Start an FTP session for communication with the z/OS host using the following FTP command:

```
ftp host-name
```

where *host-name* is the name of the z/OS host.

3 Enter your login ID and password for the z/OS host.

4 Switch to binary data mode (an SMA table must retain its format as EBCDIC during the transfer):

```
binary
```

5 Specify that the data set for the SMA tables must be written with `RECFM=FB` and `LRECL=80`:

```
quote site RECFM=FB LRECL=80 BLKSIZE=4000
```

6 Write the SMA tables as a data set to the z/OS system:

```
put pppvrs.BIN 'hilev.pppvrs.smatabs'
```

where *hilev* is the high-level qualifier (for example, "SAG") to be used for the data set.

This command will create a data set called *hilev.pppvrs*.smatabs with RECFM=FB and LRECL=80. The SMA tables which are stored in the data set will be in EBCDIC format.

Transferring SMA Tables from a PC to a z/VSE Host Using FTP

The FTP sample session described in the steps below loads the SMA tables into a sequential z/VSE data set (with RECFM=FB and LRECL=80). The sequential data set must be accessible via FTP. That means, the data set must be included as a DLBL statement in the startup of the z/VSE TCP/IP partition:

```
// ASSGN  SYSnnn,DISK,VOL=vvvvvv,SHR
// DLBL SMATABS,'SAGNET.SMATABS',0
// EXTENT SYSnnn,vvvvvv,1,0,ssss,ttt
```

In addition, it must be defined in the z/VSE TCP/IP config member IPINIT00 with a DEFINE FILE statement with type SAM:

```
DEFINE FILE,PUBLIC='SMATABS',TYPE=SAM,DLBL=SMATABS
```

For more information, refer to your FTP documentation.

To transfer SMA tables from a PC to a z/VSE host

1 Download the SMA tables (*pppvrs*.BIN) to your PC's hard disk.

2 Start an FTP session for communication with the z/VSE host using the following FTP command:

```
ftp host-name
```

where *host-name* is the name of the z/VSE host.

3 Enter your login ID and password for the z/VSE host.

4 Once the FTP session has been established, you can optionally reset the default working directory. To determine what the default working directory is, enter the following command:

```
pwd
```

To reset the default working directory, enter the following command:

```
cd ..
```

5 Switch to binary data mode (an SMA table must retain its format as EBCDIC during the transfer):

```
binary
```

6 Specify that the data set for the SMA tables must be written with `RECFM=FB` and `LRECL=80`:

```
quote site recfm fb
```

```
quote site lrecl 80
```

```
quote site blksize 4000
```

7 Write the SMA tables to a sequential data set on the z/VSE system (in this example, it is named SMATABS):

```
put pppvrs.BIN SMATABS
```

This command will write the SMA tables *pppvrs*`.BIN` to a sequential data set called `SMATABS`. The data set will have `RECFM=FB` and `LRECL=80`. The SMA tables will be stored in EBCDIC format.

Transferring SMA Tables from a PC to a BS2000/OSD Host Using FTP

Important: Make sure to switch to binary transfer and verify that the resulting data set has file type `SAM`.

To transfer SMA tables from a PC to a BS2000/OSD host

1 Download the SMA tables (*pppvrs*`.BIN`) to your PC's hard disk.

2 Start an FTP session for communication with the BS2000/OSD host using the following FTP command:

```
ftp host-name
```

where *host-name* is the name of the BS2000/OSD host.

3 Enter your user ID, password and (if relevant) account number for the BS2000/OSD host.

4 Switch to binary data mode (an SMA table must retain its format as EBCDIC during the transfer):

```
binary
```

5 Specify that the file for the SMA tables must be written with `FCBTYPE=SAM`, `RECFORM=F` and `RECSIZE=80`:

```
quote file pppvrs.SMATABS,FCBTYPE=SAM,RECFORM=F,RECSIZE=80
```

6 Write the SMA tables to the BS2000/OSD host:

```
put pppvrs.BIN pppvrs.SMATABS
```

18 SNTDECOD Error Messages

In this chapter, you find the error messages issued by SNTDECOD, the decoding software needed to load binary host files from Empower.

The current version of SNTDECOD is 113.

To check your version, please look at the header of the output generated by SNTDECOD.

If you have a previous version, such as 105, please update to 113.

Code	OpSys	Description
SNT100I	*	File decoded successfully.
SNT115I	MV	SMA output file cannot be written. **Cause:** The SMAOUT file is not specified. **Action:** This message is informative, not an error message. If you do not want to generate the SMAOUT file, ignore this message, else include the SMAOUT line.

Error Code	OpSys	Description
SNT101S	*	Input file has wrong format. - e not last. **Cause:** The last record of the input file must contain the string "E.....Last Record". Somehow records where included after the “official” last record. **Action:**

Error Code	OpSys	Description
		Make sure the FTP does not add records to the end of the transferred file or try deleting those records after "E.....Last Record" manually.
SNT102S	*	Input file has wrong format. - e missing. **Cause:** The last record of the input file must contain the string "E.....Last Record". In this case, this record is missing. Transfer of FTP incomplete? **Action:** FTP the Empower encoded file again and ensure that the FTP operates in binary mode. Check that the file is not truncated after the FTP.
SNT103S	*	Error during open of input file. **Cause:** The input file contains an EOF in the first record, i.e. the input file contains one record only. **Action:** Use a Empower encoded file as input file or check if the FTP passed the file correctly to the mainframe, i.e. created more than one record.
SNT104S	*	Not used.
SNT105S	*	Processing stopped. Do not use output file. **Cause:** This message is printed as a succession of other error messages in this paper. **Action:** Find the error preceding this error and follow the recommended action.
SNT106S	*	Input file has wrong format. - data unit len -. **Cause:** The length of the encoded data unit is 0 or greater than allowed. **Action:** This is an encoding problem. Call Software AG Support.
SNT107S	*	Input file has wrong format. - record len - **Cause:** The length of the decoded record is 0 or greater than allowed. Typically the carriage return/line delimiter being marked causes this error. The carriage return/line delimiter should be marked for text, not binary.

Error Code	OpSys	Description
		Action: Unmark the carriage return/line delimiter and rerun.
SNT108S	*	Input file has wrong format. - rec i not first. **Cause:** Multiple "rec i" were found. Only one is allowed.
SNT109S	*	Wrong version of decoding program.

SNT110S	*	Input file has wrong format. - rec i not first.
		
		Cause:
		
		The decoding routine expects the first record of the encoded file to begin with "I", for example, "I111105". This is not the case here.
		
		Action:
		
		Make sure the encoded file was not corrupted during the FTP. After the file is uploaded to the mainframe, the first three lines of a good file uploaded would look as follows:
		
		`000001 I111105`
		`000002 C(C) Software AG, date/time stamp`
		`000003 dataset set name, format, DCB and blksize information`

SNT111S	*	Input file has wrong format. - nbf -. **Cause:** The number of data bytes in the file does not match the `NumByteFile` count contained in the last record of the coded file. **Action:** Make sure the encoded file was not corrupted during the FTP.
SNT112S	*	Input file has wrong format. - chks -. **Cause:** The number of data bytes in the file does not match the checksum contained in the last record of the coded file. **Action:** Make sure the encoded file was not corrupted during the FTP.
SNT113S	*	Fatal error during decompression - call SAG support. **Action:**

Error Code	OpSys	Description
		Typically this error is caused by a corrupt data set. Try downloading and decoding the data set again.
SNT114S	MV	Output file not available. **Cause:** The SNTOUT file cannot be found **Action:** Check that the physical file referenced by SNTOUT is available.
SNT116S	MV	SMA output file must have record length 80. **Action:** Specify the record length of 80 for SMAOUT. For z/OS: LRECL=80.
SNT117S	MV	SMA output file must have fixed record length. **Action:** Specify a fixed record length for SMAOUT. For z/OS: RECFM=F.
SNT118S	*	Invalid record format in SNTOUT file. **Action:** When uploading the PC file to mainframe, make sure the transfer tool supports the binary mode. The record format of the SNTOUT data set on the mainframe must be FB, record length of 80 and a block size of a multiple of 80, e.g., 6000. Once the upload has been done, one can check if this was successful by examining the contents of this uploaded file. The third record should read something like: `TFRZ.NAT232.ALLI001,VB,4628,4624` IRMALINK adds sequence numbers to the end of the record which may change the format from 80 bytes to 72. Looks like IRMALINK prepares the data for utilities such as IEBCOPY and is not usable for file transfer for SNT.
SNT119S	*	Invalid record length of SNTOUT file. **Cause:** For a fixed blocked SNTOUT file, the record length must match the record length of the input file. **Action:** Adjust the record length of the SNTOUT file.
SNT120S	*	Record length of SNTOUT file too small. **Cause:**

Error Code	OpSys	Description
		For a variable blocked SNTOUT file, the record length must be greater than or equal to the record length of the input file. **Action:** Adjust the record length of the SNTOUT file.
SNT121S	*	Block size of SNTOUT file too small. **Cause:** For a undef blocked SNTOUT file, the block size must be greater than or equal to the block size of the input file. **Action:** Adjust the block size of the SNTOUT file.
SNT902S	B	Link not successful. CCMO999Exit 12. **Cause:** Error affects ISP format. Statement STATE=UPDATE is missing. **Action:** Include statement STATE=UPDATE when using FORMAT=ISP.
SNT903S	*	Error writing file Length n / 0. **Cause:** Drive space limit. **Action:** Increase the size of the SNTOUT file. There also may be the possibility that the file is corrupted. You may want to download the fix again from Empower.
SNT904S	V	Output record too big: n / n
SNT906S	V	Unable to close output file **Action:** Please check the JCL for the input (SNTCOD) and two output files (SNTOUT and SMAOUT). Try specifying SMAOUT (even if you do not use SMA).

Operating System Codes

The following codes are used in the tables above:

Code	Operating System
B	BS2000/OSD
C	CMS for z/VM
M	z/OS
V	z/VSE
*	All of the above

19 Loading Binary Host Files to OpenVMS

- Reblock and Install via VMS Command 94

All corrections (INPL etc.) of Software AG products for OpenVMS on VAX and ALPHA are stored within Empower as savesets.

Since PC files are not blocked, the savesets must be reblocked after they have been transferred to your OpenVMS system. To achieve this, use the method described below.

Reblock and Install via VMS Command

1. In order to download the correction file from the Empower server to your PC, choose the download icon.
2. Use a file transfer system which is available for your local PC to your VMS system. Transfer the files as binary, not as ASCII.
3. To get the proper block size that has been used with the backup command on your OpenVMS system, issue the following command:

   ```
   $ BACKUP /LIST <correction-file-name>/SAVE ↩
   ```

4. In order to convert the file into a FIX record format with this block size, issue the following command:

   ```
   $ SET FILE/ATTR=(RFM:FIX,LRL:<block-size>) <correction-file-name>
   ```

   Note that the default block size is 8192 for backup savesets on tape and 32256 for those on disk, but the block size can be chosen freely.
5. This file should be backed up like a normal saveset. To unpack the correction from the saveset into the working directory, use the following command:

   ```
   $ BACKUP <correction-file-name>/SAVE *.*
   ```

6. Install the correction as described in the documentation provided with the correction. The installation of the correction is finished.

20 Loading Binary Host Files to OS/400

All corrections (program patches, INPL, etc.) of Software AG products for AS/400 are stored within Empower as binary PC data sets. The download data set name conforms to the following convention:

```
LLvrsPuu.nnn
```

where:

This abbreviation	stands for
LL	a two-letter product short code, e.g. "NA" for Natural.
vrs	Version, release and SM level of the product.
P	Processor type: "R" for AS/400 RISC, "C" for AS/400 CISC.
uu	Update level of this release.
nnn	Patch number.



Note: Usually, there are two separate download data sets for CISC processor machines (OS/400 version V2R3 to V3R5) and RISC processor machines (OS/400 version V3R6 and higher). You need to have TCP/IP installed on your AS/400 to upload via FTP the patch file from your PC.

Perform the following steps to download your patch file:

1. Select the right data set for the processor type of your target AS/400 machine.
2. Click to download the data set to your PC. The downloaded PC file is compressed.
3. Rename the file extension to ".exe" and execute the file to expand it.
4. Find one or more OS/400 data sets and a *README.TXT* file. The patch data sets are usually an OS/400 save file.
5. Follow the instructions in the readme file to upload and install the correction on your AS/400.

21 Loading Resolutions for UNIX and PC Platforms

Correction files are solutions for UNIX and PC platforms.

If the attached resolution (that is indicated as such in the cover sheet) contains the extension *.exe*, execute the correction file to expand it. For installation, follow the instructions in the README file.

For *.VS0*, rename the file extension to *cpio.Z*, uncompress and use CPIO with option `-icBvmd` to dearchive. For installation, follow the instructions in the README file.

For any other extension except *.exe* and *.VS0*: Copy the attached file to the destination environment. For installation, follow the instructions in the README file.

22 Delivery of Natural CICS (NCI) Source Changes

To provide better service to customers, Software AG will change with Natural for Mainframes Version 4.1.2 the delivery of Natural CICS Interface (NCI) source changes.

In the past, the source changes have been released as particular fixes and have been applied manually by Natural system administrators. This led sometimes to problems, like prerequisites were overlooked, application of the source change contained typing errors, etc.

Software AG will synchronize the delivery methods of INPLs and source changes and deliver also NCI source changes as service packs (SP) in the first step:

- New SPs will be delivered for Natural CICS Interface (NCI) on OS/390, z/OS and VSE/ESA.
- The release frequency will be similar to INPL service packs.
- They will be delivered also via Empower. All fixes and all solved problems will be documented.
- SPs will contain the whole NCI driver, all macros and will be cumulative.
- The current service pack number can be displayed by entering the `EX` command in `SYSPROD` in front of the "Natural CICS Interface" line.
- All important dependencies between source change SPs and other fixes will be documented in the problem description under necessary and recommended fixes.

To apply the source change service pack, it is necessary (like source changes) to re-assembly and re-link the Natural frontend (CICS dependent part of the Natural nucleus). Please find a check list below which could help doing this:

- Upload the NCI source change library in a separate new source library.
- Check whether your initial source members were customized; if yes, apply the modifications to the new source members accordingly.
- Use the new source library name as the first library in the `SYSLIB` (on VSE `LIBDEF`) chain of the appropriate pre-compiler and assembly job steps in your link job.
- If the `SYSIN` entry is also part of the service pack library, use the new module.

- Rename the Natural frontend in the load library to prevent overwriting the old one.
- Submit the jobs to pre-compile, assembly and link the new Natural frontend (like NCII070).
- Check the chapters *Necessary Fixes* and *Recommended Fixes* of the SP problem description and apply the co-requisites to the new environment.
- After successful termination of this step, reload the new frontend.
- Call `SYSPROD` in Natural and enter `EX` in front of "Natural CICS Interface" to see the current service pack level. Also, with the `DUMP SRCE` command, it is possible to get the current source change status.
- Test the new Natural frontend under runtime.

Copy the contents of the NCI source change library to the appropriate source and macro library (with `REPLACE` option) to update the sources.

23 FAQ: Handling of Resolutions/Fixes

- Where do I find product fixes? 102
- Can I get every source fix (INPLs, IUPDs, etc.) for a particular product in one downloadable module? 102
- How do I get the source fix to my mainframe? 102
- My operating system does not have a TCP/IP stack. What else can I use? 102
- How often are resolutions loaded into Empower? 102
- Why are some old corrections/fixes no longer accessible? 103
- How do I prepare a mainframe PDS or other variable-blocked file for FTP? 103
- How do I download Zaps and source changes? 103
- Whenever I try to display or download a fix, I cannot seem to get connected and sometimes I receive a time-out message from the server. Why? 103
- Whenever I try to display or download a fix, I get a message telling me that the URL is forbidden. Why? 103
- When I try to download a Zap or fix, I get a message like: “unknown plug-in - application/x-unknown”. What's wrong? 104
- When I try to download ASCII-type files the contents of the file are displayed instead of being saved to disk. What's wrong? 104
- How can I obtain all Zaps for a specific product version easily? 104
- How do I apply source data fixes to my mainframe? 104
- Why are some mainframe corrections coded and compressed? 105
- Why are source fixes encoded which require decoding before they can be applied to the mainframe? 105
- Where do I get the decoder required for source fixes? 105
- The decoder gives me an error when I try to decode a fix data set on the mainframe. What can I do? 106
- How do I apply coded corrections to my mainframe? 106

Where do I find product fixes?

Use the Knowledge Center or the Fix Explorer.

Can I get every source fix (INPLs, IUPDs, etc.) for a particular product in one downloadable module?

No. The size of such a module would be prohibitive for downloading. All source fixes are available for download from Empower one fix at a time.

How do I get the source fix to my mainframe?

Move the fix from the PC to your mainframe using of your own utility. Software AG recommends native FTP for this process.

For further details, see **General Support Info > Diagnostic Information** in the navigation bar on the left.

My operating system does not have a TCP/IP stack. What else can I use?

There are TCP/IP stack add-on products available from other vendors for a fee. Software AG also offers additional products that will accomplish this task, such as Com-plete, Natural for ISPF and Entire Connection. CICS utilities (UPLOAD) may also work.

For further details, see **General Support Info > Diagnostic Information** in the navigation bar on the left.

How often are resolutions loaded into Empower?

Product fixes are loaded into Empower on a daily basis.

Why are some old corrections/fixes no longer accessible?

All fixes created after January 01, 1997 are accessible on Empower. If you need a correction that does not appear in Empower but refers to a product maintenance level that is still officially supported, contact your customer support or submit a support request.

How do I prepare a mainframe PDS or other variable-blocked file for FTP?

For details, see **General Support Info > Diagnostic Information** in the navigation bar on the left.

How do I download Zaps and source changes?

The required Zap or source change can be downloaded by choosing the download button. Your browser will do the actual download to your PC and will ask you where on your PC's hard disk to save the data set.

For further details, see **General Support Info > Diagnostic Information** in the navigation bar on the left.

Whenever I try to display or download a fix, I cannot seem to get connected and sometimes I receive a time-out message from the server. Why?

Typically this problem occurs when a user's firewall restricts the user from being assigned to a specific port number. Empower needs to assign you to a specific port to display or download a fix. Check with your network people to find out if your firewall restricts the assignment of port numbers.

Whenever I try to display or download a fix, I get a message telling me that the URL is forbidden. Why?

This error occurs when Empower thinks it has detected an illegal attempt to gain access to a fix. Empower checks where you came from and how you accessed it prior to allowing fixes to be given. If you are using a bookmark to access Empower, check to be sure the path is correct.

When I try to download a Zap or fix, I get a message like: “unknown plug-in - application/x-unknown”. What's wrong?

This message is issued by your browser and is due to the file extensions that we have given our fixes. We depend upon your browser to handle the actual download and what your browser is telling you is that it does not have a helper application defined to handle a file with this type of extension. This is by design and is normal. Your browser should provide you with various options, one of which will instruct your browser to save the file on your PC's hard disk.

When I try to download ASCII-type files the contents of the file are displayed instead of being saved to disk. What's wrong?

This is a browser problem and no Empower error. It occurs with some older versions of the Microsoft Internet Explorer. If you experience this problem, update your browser to a newer version.

How can I obtain all Zaps for a specific product version easily?

If a minimum of 20 Zaps exists per product version/release/SM, Zap combinations are provided upon request.

The Zap combinations for a specific product version/release/SM are combined in a single solution data set. You can search for and download all available Zaps in one step instead of handling each Zap separately.

In the Knowledge Center, go to **All Fixes**. Choose the product and then see the entry for the correction type "all zaps".

How do I apply source data fixes to my mainframe?

Mainframe source data fixes are encoded and must be decoded prior to being applied. To decode the fix, you will need the Software AG decoder.

You can find the z/OS version here: ***Loading Binary Host Files to z/OS***.

The decoder must be installed on the mainframe and the encoded fix should be moved from the PC to the mainframe prior to decoding. We recommend using native FTP (available as freeware

or shareware) to move the fix. The source fix should then be decoded using the Software AG decoder and then applied (for example, via INPL).

Why are some mainframe corrections coded and compressed?

Some mainframe corrections must be provided in a coded and compressed format to guarantee correct data set transformation, decrease the data set size and enable installation via SMA (MF System Maintenance Aid).

Why are source fixes encoded which require decoding before they can be applied to the mainframe?

Mainframe source data fixes are encoded because of blocking factors. All mainframe Software AG source fixes are variable-blocked, which a PC will not tolerate. Zaps, on the other hand, are fixed-block and do not have this problem. Mainframe source fixes must be encoded so that their blocking factors are not lost by the PC. Move the encoded source fix from your PC to the mainframe prior to decoding it. We recommend using native FTP (available as freeware or shareware) to move the encoded data set to the mainframe.

For further details, see **General Support Info > Diagnostic Information** in the navigation bar on the left.

Where do I get the decoder required for source fixes?

z/OS and BS2000/OSD users can download the decoder here:

- *Loading Binary Host Files to z/OS*
- *Loading Binary Host Files to BS2000/OSD*

z/VSE and CMS for z/VM users should submit a Support Request asking that the appropriate decoder be sent to them on tape.

In urgent situations, please contact your customer support.

The decoder gives me an error when I try to decode a fix data set on the mainframe. What can I do?

First, please see the section *SNTDECOD Error Messages* as it contains the most common errors and their resolution. If this section does not resolve your problem, submit a support request or call your customer support.

Choose the product group for the fix that you are applying (If you are working with an Adabas fix, choose "data management", if you are applying a Natural fix choose "application engineering", etc.).

How do I apply coded corrections to my mainframe?

Coded and compressed corrections must be converted prior to being uploaded and applied to the mainframe. To decode/decompress the correction, please apply the Empower `SNTDECOD` software.

See the following sections:

- *Loading Binary Host Files to BS2000/OSD*
- *Loading Binary Host Files to z/OS*
- *Loading Binary Host Files to VM/CMS (CMS for z/VM)*
- *Loading Binary Host Files to z/VSE*

24 Using Command Central or Software AG Update Manager to Install Fixes

Software AG recommends installing your fixes as follows:

- Use Command Central to install fixes and support patches on Software AG products in distributed staging and production environments. Command Central enables you to install, patch, configure, manage, and upgrade products remotely from a central location.

  See the **Command Central** documentation for further details.

- Use Software AG Update Manager to install fixes and support patches on Software AG products on standalone development machines.

  See the **Software AG Update Manager documentation applying to product releases October 2016 and earlier** for further details.

  See the **Software AG Update Manager documentation applying to product releases April 2017 and later** for further details.

25 Important Advice for Correction Installation

Software AG recommends that you keep its software products as current as possible and apply all known corrections.

Software AG strongly recommends that you read in the Zap headers all installation instructions thoroughly, comply with all documented prerequisites, and keep track of all corrections that are applied.

Applying only a subset of unrelated corrections can cause errors difficult to diagnose.

26 Applying a Natural INPL in a 24x7 Environment

Applying a Natural INPL (service pack, hot fix) in a running Natural application environment (e.g. batch job or server) may occasionally issue a Natural "NAT0932 Program version error", a "NAT0936 or NAT0937 Parameter mismatch" error code, if an active Natural object has been replaced by the service pack (for example, a user application programming interface from library `SYSEXT` or a Natural object from another system library).

Therefore, Software AG highly recommends to apply service packs only when no applications are being executed.

Note for Natural RPC Servers:

If it is not possible to shut down all RPC servers while applying a service pack, the following procedure is recommended in order to minimize the impact on client requests:

1. Wait until all Natural RPC servers are inactive and wait for client requests.
2. Apply the service pack or hot fix.
3. Refresh the contents of the respective buffer pool.
4. Ping all servers to ascertain they are active (Natural error NAT0932 may occur, but server execution continues).

27 Resolution References and Product Versions

Occasionally, corrections may refer to product versions which cannot be found in Empower. However, the majority of resolution references are always kept up-to-date on a daily basis.

Reason:

Due to immediate publication of product problems in Empower, resolution references to versions/releases /SMs may occur which are no longer relevant at a later date. In such cases, the original version indicated was never officially released, but replaced by a later version.

Example:

A product problem for Predict 3.3.3 was published with resolution reference to version 3.3.4. Predict 3.3.4 was then planned as the next version. The official release was, however, made with Predict 3.4.1. As a result, any old references to version 3.3.4 must now refer to version 3.4.1.

28 Corrections on UNIX and PC: CD Label Information

In the following table, you find the operating system and the corresponding CD label.

Operating System	CD Label
AIX 5.2 (Power 64-bit)	AIX 5.2 (64-bit)
AIX 5.2 (RS/6000 / Power 32-bit)	AIX 5.2 (32-bit)
AIX 5.3 (Power 64-bit)	AIX 5.3 (64-bit)
HP-UX 11.11 (PA Risc 32)	HP-UX 11i v1 PA Risc (32-bit)
HP-UX 11.11 (PA Risc 64)	HP-UX 11i v1 PA Risc (64-bit)
HP-UX 11.23 (IA64)	HP-UX 11i v2 Itanium (64-bit)
HP-UX 11.23 (PA Risc 64)	HP-UX 11i v2 PA Risc (64-bit)
Red Hat Enterprise Linux AS 2.1 (ix86)	RHEL 2.1 AS (x86)
Red Hat Enterprise Linux AS 3 (ix86)	RHEL 3.0 AS (x86)
Red Hat Enterprise Linux AS 4 (IBM z/Linux 64)	RHEL 4.0 AS (zLinux 64-bit)
Red Hat Enterprise Linux AS 4 (ix86)	RHEL 4.0 AS (x86)
Red Hat Enterprise Linux AS 4 (x86-64)	RHEL 4.0 AS (x86-64)
Solaris 9 (64 Ultra SPARC)	Solaris 9 (64-bit)
Solaris 10 (64 Ultra SPARC)	Solaris 10 (64-bit)
SUSE Linux Enterprise Server 8 (ix86)	SLES 8 (x86)
SUSE Linux Enterprise Server 9 (IBM z/Linux 64)	SLES 9 (zLinux 64-bit)
SUSE Linux Enterprise Server 9 (ix86)	SLES 9 (x86)
SUSE Linux Enterprise Server 9 (x86-64)	SLES 9 (x86-64)
SUSE Linux Enterprise Server 10 (IBM z/Linux 64)	SLES 10 (zLinux 64-bit)
SUSE Linux Enterprise Server 10 (ix86)	SLES 10 (x86)
SUSE Linux Enterprise Server 10 (x86-64)	SLES 10 (x86-64)
Windows Server 2008 (x86-64)	Server 2008 (x64)

Operating System	CD Label
Windows Server 2008 (ix86)	Server 2008
Windows Vista (x86-64)	Vista (x64)
Windows Vista (ix86)	Vista
Win Server 2003 Enterprise Edt (ix86)	Server 2003 Enterprise Edition
Win Server 2003 Standard Edt (ix86)	Server 2003 Standard Edition
Windows 2000 Advanced Server (ix86)	2000 Advanced Server
Windows 2000 Professional (ix86)	2000 Professional
Windows 2000 Server (ix86)	2000 Server
Windows XP Professional (ix86)	XP Professional

29 Installing the IBM Virtual Tape Server for z/VSE

- Supported Tape Image Formats 118
- Implementing the VSE Virtual Tape Server 119
- How the VSE Virtual Tape Server Process Works 120

As part of the most recent releases of z/VSE (version 3.1 and above), IBM provides the VSE Virtual Tape Server, a facility that allows writing and reading “virtual” tapes created on a PC, instead of on a physical tape or cartridge unit.

Supported Tape Image Formats

A virtual tape is usually represented by a file in AWSTAPE format, which can be either a VSE/VSAM file, or a file on any Java-enabled platform. The file contains all data records, as well as tape marks, headers and end-of-record entries that you would have on a regular tape.

The VSE Virtual Tape Server supports the following tape image formats:

- **AWSTAPE format**
  This format is known from the P390 tape emulator. You can directly use tape images created by a P390 with the VSE Virtual Tape Server, and vice versa. Usually, AWSTAPE files uses the extension *.aws*, however, files can be named with any extension, except *.zip* and *.ptf*.
- **Binary PTF format**
  Binary PTF format files contain a PTF job stream. The records are stored in binary with a record length of 80. Since the PTF format file does not contain tape marks, the VSE Virtual Tape Server emulates these tape marks when accessing PTF format files. To be recognized as PTF files, the file name must end with *.ptf*.
- **Zipped AWSTAPE format**
  The VSE Virtual Tape Server is able to access AWSTAPE images directly within a Zip file. You do not have to unzip the files before using them with the VSE Virtual Tape Server. The VSE Virtual Tape Server automatically unzips the data on demand. However, Zip support is for read-only access.

  To access an AWSTAPE file within a Zip file, you have to specify both names separated with an exclamation mark or a colon at the `VTAPE START` command, as follows:

```
VTAPE START,UNIT=cuu,LOC=ipaddr,FILE='zip-file!aws-file',READ
```

- **Zipped PTF format**
  The VSE Virtual Tape Server is able to access PTF format files directly within a Zip file. You do not have to unzip the files before using them with the VSE Virtual Tape Server. The VSE Virtual Tape Server automatically unzips the data on demand. To be recognized as PTF files, the file name within the Zip file must end with *.ptf*. However, Zip support is for read-only access.

  To access a PTF format file within a Zip file, you have to specify both names separated with an exclamation mark or a colon at the `VTAPE START` command, as follows:

```
VTAPE START,UNIT=cuu,LOC=ipaddr,FILE='zip-file!ptf-file',READ
```

Implementing the VSE Virtual Tape Server

Basically, two components have to be implemented to use the VSE Virtual Tape Server. This is described in the following topics:

- The VSE Virtual Tape Server Running on a PC
- Jobs Running on the z/VSE Mainframe

The VSE Virtual Tape Server Running on a PC

1. Create a directory with write-access on the PC (for example, *c:\temp\VSE Virtual Tape Server*).
2. Download the file *vtape410.zip* from the following IBM website to the directory created in the previous step:

   http://www-03.ibm.com/servers/eserver/zseries/zvse/products/vtape.html
3. Extract the contents of the downloaded Zip file into the directory that you have previously created (for example, into *c:\temp\VSE Virtual Tape Server*).
4. Once unzipped, run the file *install.bat* from the created directory, and follow the instructions in the VSE Virtual Tape Server install wizard.

Jobs Running on the z/VSE Mainframe

1. The following job needs to reside permanently (`DISP=L`) in the RDR queue of the VSE machine from where the virtual tape is generated:

   ```
   // JOB TAPESRVR START UP VSE TAPE SERVER
   // ID USER=VCSRV,PWD=VCSRV
   // LIBDEF *,SEARCH=(PRD2.CONFIG,PRD1.BASE,PRD2.SCEEBASE)
   // EXEC $VTMAIN
   /* ↩
   ```

   TAPESRVR executes this phase to activate the VSE Virtual Tape Server interface.

   Important: The name of the job on the RDR queue must be "TAPESRVR".

2. A typical job for generating a virtual tape on this VSE machine would look as follows (COPYJOB):

```
// JOB VTBACKUP - SUBLIBRARY BACKUP USING VIRTUAL TAPE DRIVER -
// ON $CANCEL OR $ABEND GOTO VTAPSTOP
VTAPE START,UNIT=525,LOC=111.222.333.444,FILE='C:\TEMP\MYTAPE_FILE'
MTC REW,525
// EXEC LIBR
BACKUP SUBLIB=USERLIB.SUBLIB TAPE=525
/*
/. VTAPSTOP
VTAPE STOP,UNIT=525
/&
```

where:

- 525 is a tape unit available in the system.
- 111.222.333.444 is the TCP/IP address of the PC on which the virtual tape will be generated.
- C:\TEMP\MYTAPE_FILE is the physical file that will be created on the PC specified by the TCP/IP address.

How the VSE Virtual Tape Server Process Works

The following topics are covered below:

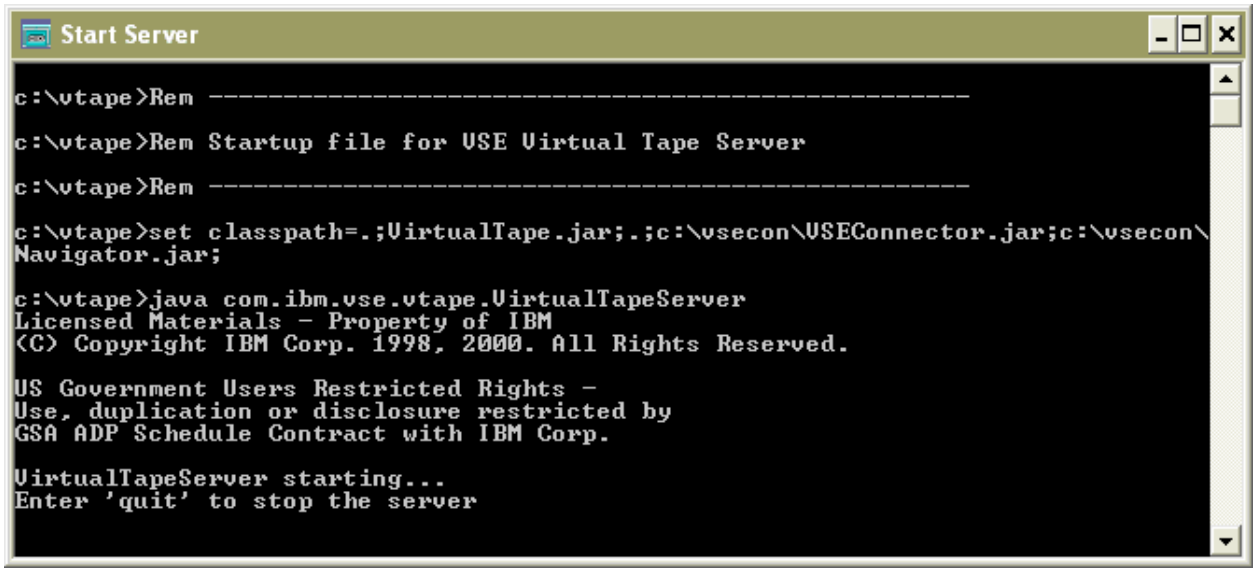
- Start the VSE Virtual Tape Server on the PC
- Run the Job that Creates the Virtual Tape on VSE
- Example Application: Backup and Restore a Sublibrary

Start the VSE Virtual Tape Server on the PC

Start the VSE Virtual Tape Server on the PC where the file is going to be downloaded: From the Windows **Start** menu, choose **Programs > VSE Virtual Tape > Start Server**.

This runs a batch file that executes the following Java program: *com.ibm.vse.vtape.VirtualTapeServer*.

Information similar to the following is shown:



The tape server runs in the background.

To stop the server at any time, enter "quit" in this window.

Run the Job that Creates the Virtual Tape on VSE

Once the tape server has been started on the PC, run the job on the mainframe that will connect to the tape server and download the file(s) to the PC (see sample COPYJOB above).

If the tape server is not started *before* the job is submitted on the VSE machine, the following error will occur on the mainframe:

```
1YM4I  TAPE DATA HANDLER INITIALIZATION COMPLETED
1YM7t  TAPE DATA HANDLER ENCOUNTERED CONNECTION ERROR
```

When this error occurs, you can either

- supply the correct IP address of the PC where the virtual tape was started, or
- start the tape server on the PC.

If the connection is successful from the job TAPESRVR on the mainframe to the PC where the VSE Virtual Tape Server is running, the following messages should appear:

- In the PC command window where the VSE Virtual Tape Server is running:

```
Connection accepted from 555.666.777.888
Tapeimage file has been opened successfully
```

- In the mainframe console:

```
1YM3I  TAPE DATA HANDLER INITIALIZATION IN PROGRESS
1YM4I  TAPE DATA HANDLER INITIALIZATION COMPLETED
1YM6I  TAPE DATA HANDLER ACCESSED SPECIFIED FILE SUCCESSFULLY
```

COPYJOB automatically releases the TAPESRVR job from the RDR queue, and, once it finishes executing on the VSE machine, generates a binary file on the connected PC, with the name provided in the `FILE=` field of the `VTAPE` card.

Example Application: Backup and Restore a Sublibrary

A typical application is to backup and restore a sublibrary:

1. **Back up a sublibrary to a PC**
   See the sample COPYJOB provided above.
2. **Restore a sublibrary from a backup downloaded to a PC**
   Use the following sample job to restore the sublibrary that you have backed up in the previous step:

```
// JOB VTRESTOR - SUBLIBRARY RESTORE USING VIRTUAL TAPE DRIVER -
// ON $CANCEL OR $ABEND GOTO VTAPSTOP
VTAPE START,UNIT=525,LOC=111.222.333.444,FILE='C:\TEMP\MYTAPE_FILE'
MTC REW,525
// EXEC LIBR
RESTORE SUBLIB=USERLIB.SUBLIB TAPE=525
/*
/. VTAPSTOP
VTAPE STOP,UNIT=525
/&
```



Important: To prevent holding a specific tape unit indefinitely, always stop the tape unit used by any of the VSE Virtual Tape Server jobs on the mainframe by issuing the appropriate command at the end of the JCL: `VTAPE STOP,UNIT=`*nnn*.

30 Special Characters in Zaps

Special characters in the CSECT names can be manipulated during the translation from ASCII to EBCDIC depending on the translation table. To prevent such manipulations, a comment is added to the end of the line containing the CSECT name. If you apply such Zaps, check whether the EBCDIC code matches with the CSECT name.

Example

```
NAME NATCMOD  NATSSLI§           /* Csect name = X'D5C1E3E2E2D3C97C'
VER 0334 95E2,F066
```

31 Product Code Translation Table

Support articles and corrections for products in the **For Product Code** column can be found by using the product code in the **Use Product Code** column.

For Product Code	Use Product Code
DMF	Adabas [ADA]
EBS	EntireX Communicator [EXX]
INO	Tamino Server [INS]
NDC	Natural for DB2 [NDB]
NVP	Natural for VSAM [NVS]
TXA	Tamino Server [INS]
TXB	Tamino Server [INS]
TXC	Tamino Server [INS]
TXD	Tamino Server [INS]
TXI	Tamino Server [INS]
TXM	Tamino Server [INS]
TXQ	Tamino Server [INS]
TXS	Tamino Server [INS]
VDB	EntireX Orchestrator [SVI]
VDO	EntireX [EXX]
VMQ	EntireX Orchestrator [SVI]
WSA	Entire Net-Work [WCP]
XSD	Tamino Server [INS]

32 Downloading LMS Libraries from Empower

If LMS libraries (e.g. patch level, corrections etc.) are downloaded from Empower, decoded (SNT) under BS2000 and copied with `P.COPYPAM`, the result is not an LMS library.

Procedure `SNT-DECOD` does not convert them correctly. `SNTCOD` under BS2000 always creates files with `REC-FORM=VARIABLE`. But the conversion programs `SAMTOPAM` and `SAMTOLIB` expect files with `REC-FORM=FIXED`.

This issue is handled in the following SAGSIS problems:

- 227084
- 231310
- 231379

The input data set for this procedure is the unloaded file from Empower which must be correctly transferred to BS2000 using the following file attributes:

```
RECF=F
RECS=80
BLKS=(STD,1)
```

Therefore an additional step is necessary to convert `REC-FORM` from `VARIABLE` to `FIXED`. The following example procedure will do this.

```
/   "-----------------------------------------------------------------"
/   "  PROCEDURE:  P.SNTCOD                                          "
/   "  TASK     :  DECOD (AND CONVERT IF NECESSARY) FILES UNLOADED"   "
/     "              FROM EMPOWER.                                  "
/   "                                                               "
/   "  CONVERSION STEP                                              "
/   "  ---------------                                              "
/   "                                                               "
/   "  ALL SOFTWARE AG BS2000 FILES ARE DELIVERED AS SEQUENTIAL      "
```

```
/   "  FILES. THUS A CONVERT STEP IS NECESSARY FOR LMS-LIBRARIES.     "
/   "  CURRENTLY THERE ARE EXISTING THREE DELIVERY FORMATS FOR        "
/   "  LIBRARIES (DSORG = DATASET ORGANIZATION)                       "
/   "                                                                 "
/   "        DSORG  REC-FORM    REC-SIZE                             "
/   "        -----  ----------  --------                             "
/   "  (1)   LIB   F(IXED)        4096                               "
/   "  (2)   PAM   F(IXED)        2064                               "
/   "  (3)   LMS   F(IXED)          80                               "
/   "-----------------------------------------------------------------"
/   SET-PROCEDURE-OPTIONS -
/      DATA-ESCAPE-CHAR     = *STD
/
/   BEGIN-PARAMETER-DECLARATION
/      DECLARE-PARAMETER  INPUT-FILE (*PROMPT)
/      DECLARE-PARAMETER  SNTLIB     ('SNT112.LIB')
/      DECLARE-PARAMETER  LMS        ('$LMS')
/   END-PARAMETER-DECLARATION
/
/   DECLARE-VARIABLE   FILE-NAME
/   DECLARE-VARIABLE   REC-FORM
/   DECLARE-VARIABLE   REC-SIZE
/   DECLARE-VARIABLE   DSORG    (' ')
/
/   "-----------------------------------------------------------------"
/   "  DECOD INPUT-FILE                                               "
/   "-----------------------------------------------------------------"
/   ADD-FILE-LINK   LINK-NAME=SNTCOD, FILE-NAME=&(INPUT-FILE)
/   WR-TEXT 'CALL PROCEDURE DECODSDF ON LIBRARY &SNTLIB'
/   SHOW-VAR  INPUT-FILE
/   START-PROG *MOD(&(SNTLIB),DECODSDF)
/
/   "-----------------------------------------------------------------"
/   " GET FILE INFORMATION                                             "
/   "-----------------------------------------------------------------"
/   ADD-FILE-LINK   LINK-NAME=EDTSAM, FILE-NAME=&(INPUT-FILE), -
/      ACCESS-METHOD=*BY-CAT, RECORD-FORMAT=*BY-CAT, -
/      RECORD-SIZE=*BY-CAT, BUFFER-LENGTH=*BY-CAT
/   MOD-JOB-SW ON=(4,5)
/   START-EDT
@      READ   '/' 0.0003 R
@      SYSTEM 'REMOVE-FILE-LINK EDTSAM'
@      ON 1 CHANGE ALL X'00' TO X'40'
@      SETVAR 'REC-FORM'  = % :21-21:
@      SETVAR 'REC-SIZE'  = % :29-32:
@      DELETE % :13-15:
@      SETVAR 'FILE-NAME' = % :6-16:
@      HALT
/   MOD-JOB-SW OFF=(4,5)
/   SHOW-VAR (FILE-NAME, REC-FORM, REC-SIZE)
/
/   "-----------------------------------------------------------------"
```

```
/   "  CONVERT TO LMS-LIBRARY                                              "
/   "------------------------------------------------------------------"
/   IF (REC-FORM = 'F')
/
/      IF (REC-SIZE = '4096')
/        "-------------------------------------------------------------"
/         DSORG = 'LIB'
/        "-------------------------------------------------------------"
/         SHOW-VAR DSORG
/         DELETE-FILE   &(FILE-NAME), SUPPRES-ERR=DMS0533
/         CREATE-FILE   &(FILE-NAME), SPACE=(1000,500)
/         ADD-FILE-LINK  -
/            LINK-NAME  = PCOUT, -
/            FILE-NAME  = &(FILE-NAME), -
/            ACC-METHOD = *UPAM, -
/            BUF-LENGTH = *STD(2)
/         START-PERCON
//           ASSIGN-INPUT-FILE  LINK-NAME=SNTOUT
//           SET-RECORD-MAPPING -
//              OUTPUT-FIELDS = *FIELD -
//                 (INPUT-POSITION  =    5, -
//                  INPUT-LENGTH    = 4096, -
//                  OUTPUT-POSITION =    1)
//           END
/         START-LMS
//           REORGANIZE-LIBRARY LIBRARY=&(FILE-NAME)
//           END
/        WR-TEXT 'FILE &FILE-NAME CREATED'
/      END-IF
/
/      IF (REC-SIZE = '2064')
/        "-------------------------------------------------------------"
/         DSORG = 'PAM'
/        "-------------------------------------------------------------"
/         SHOW-VAR DSORG
/         DELETE-FILE   &(FILE-NAME), SUPPRES-ERR=DMS0533
/         CREATE-FILE   &(FILE-NAME), SPACE=(1000,500)
/         ADD-FILE-LINK  -
/            LINK-NAME  = PCOUT, -
/            FILE-NAME  = &(FILE-NAME), -
/            ACC-METHOD = *UPAM, -
/            BUF-LENGTH = *STD(1)
/         START-PERCON
//           ASSIGN-INPUT-FILE  LINK-NAME=SNTOUT
//           SET-RECORD-MAPPING -
//              OUTPUT-FIELDS = *FIELD -
//                 (INPUT-POSITION  =   21, -
//                  INPUT-LENGTH    = 2048, -
//                  OUTPUT-POSITION =    1)
//           END
/         START-LMS
//           REORGANIZE-LIBRARY LIBRARY=&(FILE-NAME)
```

```
//           END
/          WR-TEXT 'FILE &FILE-NAME CREATED'
/       END-IF
/
/       IF (REC-SIZE = '80  ')
/         "-------------------------------------------------------------"
/          DSORG = 'LMS'
/         "-------------------------------------------------------------"
/          SHOW-VAR DSORG
/          DELETE-FILE   &(FILE-NAME), SUPPRES-ERR=DMS0533
/          CHANGE-FILE-LINK  LINK-NAME=SNTOUT, NEW-NAME=EDTSAM
/          MOD-JOB-SW ON=(4,5)
/          START-EDT
@             SET      0.0001
@             READ     '/'
@             DELETE   0.0003
@             CREATE   0.0003 : 'LIB &(FILE-NAME),ANY,BOTH'
@             SYSTEM   'REMOVE-FILE-LINK EDTSAM'
@             WRITE    '#&(FILE-NAME)' OVERWRITE
@             HALT
/          MOD-JOB-SW OFF=(5)
/          MOD-JOB-SW ON=(1)
/          ASSIGN-SYSDTA  #&(FILE-NAME)
/          START-PROG   &(LMS)
/          ASSIGN-SYSDTA  *SYSCMD
/          MOD-JOB-SW OFF=(1,4)
/          WR-TEXT 'FILE &FILE-NAME CREATED'
/       END-IF
/
/   END-IF
/
/   IF-BLOCK-ERROR
/   WR-TEXT 'PROCEDURE P.SNTCOD ENDED ABNORMALLY'
/   ELSE
/      WR-TEXT 'PROCEDURE P.SNTCOD ENDED NORMALLY'
/   END-IF
/
/   EXIT-PROCEDURE     ↩
```

Use procedure `P.SNTCOD` of library `SRV111.LIB` which is delivered on every BS2000 tape since Nov. 4th, 2002.

33 Service Packs in INPL Format for Entire Systems Management Products

- FAQs 132

We are pleased to inform you that Software AG is going to change the correction procedure for the Entire Systems Management products Entire Operations (NOP), and Entire Output Management (NOM). The new correction procedure addresses several customer concerns regarding the quality of INPL corrections. The main features are:

- Regular (NOP: every 2 months / NOM: every 3 months) delivery of service packs.

  Benefit: Improves the planning of updates.
- Apply many corrections with a single update.

  Benefit: Reduced time for maintaining the environment.
- Download and apply the latest correction always.

  Benefit: Simplified handling of corrections.
- Dependencies between corrections resolved within the service pack.

  Benefit: Improved quality will be included in the service pack.
- Individual corrections can be delivered in urgent cases.

The new procedure covers the update mechanism in the same way which has already been introduced for a couple of years. The major difference is the regular time periods between the updates. The support of urgent problem fixes is not touched by this rhythm, because Software AG will continue to deliver individual corrections.

Software AG will start the process with NOP version 4.1.1, and NOM version 2.1.1. The first update version will be delivered in August 2002. The new procedure does not apply to versions older than NOP 4.1.1, and NOM 2.1.1. Software AG recommends upgrading the Entire Systems Management environment to the latest SM level, to benefit from this new service pack procedure.

Over a period of time, additional products will follow this service pack procedure. In future, a similar procedure to apply Zaps may also be introduced.

FAQs

Do I have to download all corrections from Service Pack 1 again with Service Pack 2?

No, the service packs are cumulative. This ensures that all dependencies between corrections are resolved. Only one service pack has to be applied; it is not necessary to apply prerequisite service packs.

When will an individual correction be delivered?

Individual corrections will be created and delivered to customers in critical production problem cases, or in the case of escalations, as a hot fix. Hot fixes are automatically part of the next service pack.

Will the service packs replace SMs in future?

No, SMs will be created as well, but the number of SMs might be reduced in future.

Are service packs added to released versions?

The current service pack will automatically be added to the product tape, and will be delivered together with the released version. This means customers always get the latest correction level, when they order a product version.

How can the service pack be backed out, if side effects occur?

Service packs contain several fixes, and consist of a large number of Natural modules. Once they are applied, it is difficult to restore the system libraries. Therefore, Software AG recommends that you make a backup of the `FNAT` file, before applying the service pack.

34 Change Concerning Conventions for our Mainframe Corrections

- Correction ID 136
- Download from Empower 136
- Tape Order Process 137
- "Knowledge Center - Correction" Document Layout 137

We want to inform you of a change concerning conventions for our mainframe corrections. These changes are effective by 26 March 2002. Main features are new conventions for the correction ID, download from Empower, and the tape order process. This is covered in the topics below.

Correction ID

Step by step, we will introduce a correction ID for mainframe corrections. This correction ID will have the following configuration: *pppvrsannn*.

This means:

ppp	The product code for the product to which the correction belongs.
vrs	The version, release, maintenance level for the product to which the correction belongs.
annn	An index which specifies the correction. The alphanumeric field might be used as an indicator for the correction type.

Example

NAT315L003

This correction is for Natural Version 3.1.5, is a type LOAD, and its index is 003.

Note: The data set within that correction might not necessarily have the same index as the correction. For example, the data set behind NAT315L003 might be NAT315.L005.

Download from Empower

Additionally, we will supply corrections which consist of more than one data set. This will be marked in Empower as subsets (e.g. ALLE001 1 of 3, ...). Which means: each data set has to be downloaded individually (i.e. on its own). For additional information, see ***Downloading Corrections***.

In any case, the download window offers a target file name such as *correctionid-opstype.SNT*.

Which means:

correctionid	See above.
ops	The operating system of the relevant correction you are downloading.
type	The last 4 bytes of the data set name.

Example

NAT315L003-MVSL005.SNT

Tape Order Process

The correction ID is the base communication item concerning corrections. This means: When ordering a tape, the `VOLSER` no longer needs to be known for that correction. Supplying the correction ID will be sufficient.

Searches in Empower for corrections may also be conducted using the correction ID as criteria.

"Knowledge Center - Correction" Document Layout

The "Knowledge Center - Correction" document layout has undergone a major change. These changes are the result of customer feedback to improve usage and readability. As well as to fulfill the requirements for handling the new “Conventions for our Mainframe Corrections”. All downloads are now grouped by their operating systems. For additional information, see ***Downloading Corrections***.

35 Downloading BS2000 Resolutions

Subsequent FTP sessions to copy the downloaded corrections can lead to problems under BS2000. In this case, SNT* errors can occur during decoding the corrections on BS2000.

Since the availability of the BS2000 FTP server Version V04.0, it is necessary to use the command `literal ftyp binary` to prevent that new line characters (X'15') result in a line feed (record change).

The default setting, when FTP is started, is `ftyp text`. In this case, new line characters (X'15' in EBCDIC) cause a line feed (record change).

The behavior of "older" FTP versions was wrong.

Example

```
FTP>binary
FTP>literal ftyp binary
FTP>literal file ↩
sagnet.out,recsize=80,recform=f,blksize=(std,1),open=update,fcbtype=sam
FTP>put sagnet.in sagnet.out  ↩
```