
Suprtool 4.8.12 for HP e3000:

Change Notice

by Robelle Solutions Technology Inc.



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Contents

- Introducing Suprtool Version 4.8.11** **1**
 - Introduction 1
 - Highlights in Suprtool 4.8.11 1
 - Highlights in Suprtool 4.8.10 1
 - Highlights in Suprtool 4.8.02 2
 - Highlights in Suprtool 4.7.02 2
 - Known Problems 3
 - Compatibility 3
 - CPU Serial Number and CPU Name (HPSUSAN & HPCPUNAME) 4
 - Documentation 4

- Installation** **6**
 - Overview 6
 - Ecometry Users 6
 - Instructions 6
 - Installation Assistance 6

- Enhancements in Version 4.8.11** **7**
 - Introduction 7
 - \$Clean Function and Clean Command 7

- Enhancements in Version 4.8.10** **8**
 - Introduction 8
 - \$Number Function 8

- Enhancements in Version 4.8.02** **9**
 - Introduction 9
 - \$Subtotal Function 9
 - \$FindClean Function 9
 - \$Split Function 10
 - \$Edit Function 10
 - Placeholders and Format Characters 10
 - Byte-Type Formatting 10
 - Z-placeholder for byte-fields 11
 - Overflow and limits 11
 - Numeric field edit-masks 12
 - Signs 12
 - Decimal Places 13
 - Data and Edit mask: 13
 - Currency and Dollar signs 13
 - Overflow and floating dollar 14
 - Set CurrencySymbol 14

Overflow and limits.....	14
Enhancements in Version 4.7.02	15
\$Number Function.....	15
Suprlink Join Command.....	16
\$Split Function.....	17
\$SubTotal Function.....	18
\$Total Function.....	19
\$Counter Function.....	19
Cleaning your Data.....	19
Suprtool.....	20
Defining a Clean Character.....	20
Setting the Clean Character.....	20
Cleaning a Field.....	20
Cleaning your data.....	20
STExport.....	21
Clean Command Syntax.....	21
Outcount and Fullcount.....	21
STExport Escape Command.....	22
Table Filename.....	22
Bugs Fixed	23
Bugs Fixed In Suprtool 4.8.11.....	23
Bugs Fixed In Suprtool 4.8.10.....	23
Bugs Fixed In Suprtool 4.8.02.....	23
Bugs Fixed In Suprtool 4.7.12.....	24
Bugs Fixed In Suprtool 4.7.11.....	24
Bugs Fixed In Suprtool 4.7.10.....	24
Bugs Fixed In Suprtool 4.7.....	24

Introducing Suprtool Version 4.8.12

Introduction

Suprtool provides fast access to your data on the HP e3000. With Suprtool, you can perform many necessary DP functions easily, with just a few simple commands. At Robelle we are constantly working on your enhancement requests so that we can include them every year when we release an updated version of Suprtool.

Highlights in Suprtool 4.8.12

There are no changes in this version, it is being released as part of some packaging changes, in preparation for Suprtool 4.9.

Highlights in Suprtool 4.8.11

- The \$CLEAN function in Suprtool and Clean command in STExport can now remove a character that needs to be cleaned and it does not replace with a space, but rather shifts the text to the left and adds a space to the end.
- Suprlink's Join command would not build the output file large enough if the input file flimit was significantly smaller than the Link file.
- Suprtool 4.8.10 would abort on a duplicate none key operation on a file greater than 5,000 bytes (approx)
- Suprtool would not select the correct records for Ksam64 files.

Highlights in Suprtool 4.8.10

- The \$number function would either add garbage onto the end of a conversion or two zeroes if the field did not have a decimal point.

Highlights in Suprtool 4.8.02

- The information about the data loaded in a Table would be lost if the table data being referenced was the second held table and the previous task involved a chain command.
- The Clean command in Suprtool would incorrectly upshift lower case alpha characters.
- The \$edit function will now work when nested within other string
- The \$subtotal command has been re-written to use less resources and to fix a bug in the recognition of a key value change.
- Suprtool now has a \$findclean function to identify records with specific characters in it.
- The \$subtotal function would not work if the previous task used the Dup None Keys feature.
- The \$total function would appear to total data incorrectly when sorting on the field that was being totalled.
- Variables that resolved to all spaces for the entire command line would not work.
- Suprtool now allows up to 255 \$split functions per task.
- Numrecs 100% would come up with the wrong output file size when reading very large files.
- Suprtool now has a \$edit function for formatting data.
- The new \$split function would put random characters at the point where the split would occur in some cases.
- The new \$split function would incorrectly report an error in a second task with multiple \$split operations.
- The new \$number function did not handle numbers that consisted of only a decimal place followed by any number of zeroes and a number, as in .01 thru .09.
- Suprlink would abort if the Join file was empty.
- Suprlink would hold the Join file open after the task was completed.
- Suprtool would total incorrectly when using a \$subtotal function.
- Suprtool would write corrupt data at the end of each block if the record size of the input file and output file was over 10,000 bytes.

Highlights in Suprtool 4.7.02

- The \$number function would report an error incorrectly with some specific data.
- STExport and Suprlink would build files with large flimits.

- Suprtool would report an incorrect record number when encountering an Illegal ascii digit, if the Suprtool task involved the Duplicate command.
- Suprtool now has a \$Number function which will allow Suprtool to use a freeform ascii number with signs, decimal places and currency symbol as a display field.
- Suprtool would incorrectly report an error on a second set tablesize command for a given task.
- STExport would in some cases attempt to format data in XML and HTML format at the same time.
- The Clean command in STExport and Suprtool has improved syntax to define a range of characters to replace.
- Suprtool now has a \$SubTotal function.
- Suprtool can now split byte strings into multiple fields via the \$split function.
- Suprlink can now do many-to-many links via the Join command.
- Suprlink and STExport now report the number of output records in a manner similar to Suprtool.
- The \$counter function was not reset in between tasks.
- Extract from a table would incorrectly report an error in some cases.
- The Table command now supports filenames up to 80 characters.
- The Table command truncated filenames at the limit of 36 characters.
- The number of defines allowed in Suprtool has been increased to 768.
- Suprtool and STExport now support features to Clean your data.
- STExport now supports an Escape command which will escape out certain characters.
- Suprtool now supports a \$counter function which will increment a field by one for every record selected.
- Suprtool now supports a \$total function which will total a specified field.
- The Table command incorrectly gave an error message in some cases when data was loaded into a Table.

Known Problems

There are no known problems at this time.

Compatibility

Suprtool/iX is compatible with MPE V, MPE XL, and MPE/iX, including MPE/iX 6.5, 7.0 and MPE/iX 7.5.

The fix to the \$number bug, creates an incompatibility if you used a work around by dividing by 100 and truncating. We therefore added set numbug on, to retain the behaviour that has the bug, you will need to turn on set numbug on. Therefore it is the default behaviour that is incompatible. See details further on in this change notice.

CPU Serial Number and CPU Name (HPSUSAN & HPCPUNAME)

Suprtool and its associated products run only on CPUs whose serial numbers have been encoded ("showvar hpsusan" on MPE/iX). They also may be encoded with your HPCPUNAME values. If it fails to run and you get an "invalid HPCPUNAME" or "invalid HPSUSAN" error message, contact Robelle for assistance.

Documentation

The user manual contains the full description of all the Suprtool suite of products including Dbedit, Suprlink, STExport and Suprtool2, as well as usage tips and commands for each. The manuals are up-to-date with all the latest changes. To see only the changes in the latest version, see the "What's New" section of the manual, or see the change notice.

You can download our manuals and change notices in PDF format or HTMLHelp format (.CHM) and even order printed (hardcopy) manuals from our web site at:

<http://www.robelle.com/library/manuals/>.

Installation

Overview

We have two types of Installations, Tape and Download. We provide links to the Installation instructions on our web site for each type of Install.

Ecometry Users

Users of the Ecometry application need to use the installation instructions supplied by Ecometry Corporation. Those instructions have extra steps for updating the Ecometry code accounts.

You will find the Ecometry version of these instructions at <http://www.robelle.com/ecometry/>

Types of installations, tape, download combined qedit and suprtool tape.

Instructions

If you received a production release tape from Robelle, then you can install using the instructions on this web page:

<http://www.robelle.com/support/install/tape/stpre.html>

If you downloaded the Suprtool production release from our web site then the instructions can be found here for the ftp download method:

<http://www.robelle.com/downloads/install-stpre-ftp.html>

and here for the WRQ download method:

<http://www.robelle.com/downloads/install-stpre-wrq.html>

Installation Assistance

If you have any questions about the upgrade process or run into any problems, please call us. Technical support is available on weekdays from 8 a.m. to 4 p.m. Pacific time at 800.453.8970 or you can e-mail your question to support@robelle.com.

Enhancements in Version 4.8.11

Introduction

Every year we provide Suprtool users with new features. The following section describes the new enhancements to Suprtool since Suprtool 4.8.10.

\$Clean Function and Clean Command

The \$Clean function in Suprtool and Clean command in STExport now have the ability to replace a character to be cleaned with null or nothing. If you set the cleanchar as being:

```
Set Cleanchar "<null>"
```

Suprtool will remove the character specified in the clean command and effectively shift the text to the left and blank out the portion at the end.

Enhancements in Version 4.8.10

Introduction

Every year we provide Suprtool users with new features. The following section describes the new enhancements to Suprtool since Suprtool 4.8.02.

\$Number Function

The \$number had a bug whereby it would add on two zeroes and or bad data if the input number did not have a decimal point. We have fixed the bug so that the number function no longer adds the two digits on the end in error.

However, some users worked around this issue by doing the following:

```
>extract target = $truncate($number(conv-field) / 100)
```

Since some users, used this work around, the fix to the \$number function will then return incorrect results. Therefore, we added the set numbug command to have Suprtool revert from the correct behaviour to continue to have the bug.

By default, Suprtool will just convert the number and not add on the data at the end, however, if you have used the work around then you can add the command:

```
>set numbug on
```

to the script directly or globally in your suprmgr file.

Enhancements in Version 4.8.02

Introduction

Every year we provide Suprtool users with new features. The following section describes the new enhancements to Suprtool since Suprtool 4.7.02.

\$Subtotal Function

The \$subtotal function now uses less resources than in previous versions. There was also a bug where the \$subtotal function would not correctly determine if a field entered was a sort key or not.

\$FindClean Function

We recently added the \$Clean function to primarily clean "bad" characters in text fields. This has been extremely popular enhancement but many wanted to do investigative work and try to figure out what records had these bad characters, to hopefully find out where the "bad" data was coming from. For this reason we have created the \$FindClean function. \$FindClean will return true if it finds a character defined using the Clean command.

```
>in cleansd
>clean "^9","^10"
>if $findclean(nonprint)
>list
```

The above task will list the record if the field nonprint has a Tab (Decimal 9) or a Line Feed (Decimal 10) anywhere in the field. You can Find and clean the "bad" characters from a field at the same time:

```
>in cleansd
>clean "^9","^10"
>if $findclean(nonprint)
>extract nonprint=$clean(nonprint)
>list
```

\$Split Function

Suprtool now allows up to 255 \$split functions per task. The previous limit was 16, and the limit has been changed to assist in reading data from "PRN" files.

\$Edit Function

Suprtool can format fields using edit-mask features similar to edit-mask features of Cobol. Suprtool employs two distinct types of edit-masks: one for byte type fields and the other for numeric fields.

The type of mask utilized depends on the source type of the field. If the source field is numeric, then the numeric edit-mask logic is applied, if the source field is byte type, then the byte edit-mask logic and characters apply.

The target field must always be a byte type field.

Placeholders and Format Characters

An edit-mask consists of "placeholder" characters, such as "9" for a numeric column, and "format" characters, such as "." for the decimal place. Sometimes an edit-mask character acts as both a placeholder and a format character, such as the "\$" in floating dollar signs.

Byte-Type Formatting

For Byte type fields there are two placeholder characters. These are:

X ~ place the data in the matching column for the X in the edit-mask

Z ~ place the data in the matching column unless the data is a zero; if the data is a zero, then replace with a space

The format characters are as follows:

B (space) / (slash) , (comma) . (period) + (plus) - (minus) * (asterisk)

and a Space. Please note that you can denote a space using two methods, either by putting a "B" in the mask or a space itself. For example, suppose you have data that is in ccyyymmdd format in an X8 field. Here is how you would use a "xxxx/xx/xx" mask to format the data:

```
>in mydate
>form
  File: MYDATE.TEST.NEIL (SD Version B.00.00)
  Entry:          Offset
    A           X8      1 <CCYYMMDD>
  Limit: 10000 EOF: 2 Entry Length: 8
>def formatdate,1,10
>ext formatdate=$edit(a,"xxxx/xx/xx")
>list
>xeg
>IN MYDATE.NEIL.GREEN (0) &gt;OUT $NULL (0)
FORMATDATE   = 2003/09/24

>IN MYDATE.NEIL.GREEN (1) &gt;OUT $NULL (1)
FORMATDATE   = 2003/09/24
```

As you see in the example above, the placeholder character is the "x" and the "/" is the format character. You insert a space either by specifying a "B" or by putting an actual Space character in the edit-mask. An example of inserting a space might be the formatting of Canadian postal codes (e.g., V3R 7K1):

```
>in postal
>form
  File: POSTAL.NEIL.GREEN
  Entry:
    POSTAL-CODE      X6      Offset
    Limit: 10000 EOF: 2 Entry Length: 6
>def post1,1,7,byte
>def post2,1,7,byte
>ext post1=$edit(postal-code,"xxx xxx")
>ext post2=$edit(postal-code,"xxxbxxx")
>list
>xex

>IN POSTAL.NEIL.GREEN (0) >OUT $NULL (0)
POST1      = L2H 1L2      POST2      = L2H 1L2

>IN POSTAL.NEIL.GREEN (1) >OUT $NULL (1)
POST1      = L2H 1L2      POST2      = L2H 1L2
```

Z-placeholder for byte-fields

The Z-placeholder character works differently for byte-fields than for numeric fields. For byte type fields, if the Z placeholder and the corresponding data is "0", then the zero is suppressed, regardless of the position. This is primarily for suppression of zeroes in byte type date fields:

```
ext a=$edit(date-field,"xxxx/zx/zx")
```

The above edit mask would then edit a byte type date of 20031005, to be:

```
2003/10/ 5
```

Overflow and limits

An edit mask is limited to 32 characters in total for both numeric and byte type fields. If data overflows the edit-mask, by default Suprtool will fill that field with asterisks. There is an option to have Suprtool stop when it encounters a formatting overflow:

```
>set editstoperror on
```

will force Suprtool to stop if there is data left over after applying the edit-mask. With byte-type fields, leading spaces do not cause overflow. Therefore if your data consists of:

```
" L2H1L2"
```

and your edit mask is:

```
" xxxBxxx"
```

It is not an overflow since there are only spaces to the left of the "L". If the data was:

```
" JL2H1L2"
```

an overflow exception would occur.

Numeric field edit-masks

Our edit-masks for numeric fields are patterned after those in COBOL. We provide four placeholder characters, each with a slightly different effect:

"9" - insert a digit from 0 to 9 in this position

"\$" - if you specify more than one dollar sign, you get a floating dollar sign. This means that there can be as many numeric positions as there are dollar signs, but if some positions are not needed because the value is small, the \$ floats to the right next to the first digit and the preceding positions are blank.

"*" - if there are enough digits in the value, the * position is replaced by a numeric digit; if not, an asterisk is printed. Leading asterisks are often used for check writing, so that no one can insert a different value.

"z" - insert a numeric digit at this position; if the rest of the data to the left is a zero then a space will be placed at this position. For example:

```
>ext a=$edit(int-field,"$$,$$$.$9-")
>ext b=$edit(int-field,"99,999.$9-")
>ext c=$edit(int-field,"cr99999.$9")
>ext d=$edit(int-field,"-$9999.$9")
>ext e=$edit(int-field,"**,$**.$9+")
>ext f=$edit(int-field,"zz,$zz.$9+")
>list
>xeg
>xeg
>IN FILE1SD.NEIL.GREEN (0) >OUT $NULL (0)
A      =    $11.11-      B      = 00,011.11-
C      = CR00011.11     D      = -$0011.11
E      = ****11.11-    F      =    11.11-

>IN FILE1SD.NEIL.GREEN (1) >OUT $NULL (1)
A      =    $22.22-      B      = 00,022.22-
C      = CR00022.22     D      = -$0022.22
E      = ****22.22-    F      =    22.22-
```

Signs

As shown in the example above, there are also numerous format characters for numeric edits, including four ways to specify the sign. You can specify a sign, with +, -, or the typical accounting specification of "CR" and "DB". You will note in the example above that the "cr" in the mask was up-shifted to be "CR". This is because the entire mask is up-shifted as the mask is being parsed.

You can specify more than one sign in a numeric field edit, although Suprtool will give you a warning that having two sign edit-mask characters does not really make sense. Cobol gives a Questionable warning when compiling an edit-mask with two sign characters. Suprtool, will apply the sign in both places.

Keep in mind that most data has three states:

- 1) Postive
- 2) Negative

3) Neutral

Any neutral data will not display the sign. If you specify a "+" sign in the edit-mask and the data is negative, it will of course display a "-" sign.

Decimal Places

For numeric-type edits, Suprtool attempts to adjust the data according to the number of decimal places in the edit-mask, when compared to the number of decimal places defined in the field.

For example if the data field has one decimal place, and the edit mask has two decimal places, then the data is adjusted:

Data and Edit mask:

```
102.3   zzzz.99
```

will result in the final data being:

```
102.30
```

Similarly, if the data has three decimal places and the edit-mask only has two, then the data will be rounded appropriately with the same rules as outlined in the \$number function.

You can specify more than one decimal place in an edit-mask. However, Suprtool will print a warning and it will utilize the right-most decimal place for data alignment. The decimal place character is defined by a set command:

```
>set decimalsymbol "."
```

If you define another character as the decimal symbol, Suprtool will use that character as the point to align the decimals. If you define a decimal symbol that is not an allowed edit-mask character with Set Decimalsymbol, Suprtool will assume that the field has zero decimal places and adjust the data accordingly.

Currency and Dollar signs

Suprtool edit-masks support both fixed and floating dollar signs. Logic for floating dollar-signs will be invoked if more than two dollar signs are defined in the edit-mask.

A floating-dollar edit mask attempts to put the dollar sign at the left most position of the significant data. For example if you have the following data and edit mask:

```
0001234.54 $$$$$$. $$
```

the data would end up as:

```
$1234.54
```

Suprtool will not however, put the dollar sign to the right of the decimal place. If you had the same edit mask and the data was, .09, the data would end up being formatted as:

```
$.09
```

Similarly, the \$edit function will attempt to place the dollar sign correctly in most cases. For example Suprtool will not format data in the form of:

```
$,123.50
```

Suprtool, does attempt to fixup these cases and would format the data in the following manner:

```
$123.50
```

Overflow and floating dollar

If the number of digits in the data is equal to the number of placeholder dollar signs, then the dollar sign is dropped and not added to the edited field.

```
12345.50 $$$$$.99
```

would result in:

```
12345.50
```

Set CurrencySymbol

If Set CurrencySymbol is not equal to "\$", then after the formatting has been applied, whatever symbol(s) are defined within the set command, are used to replace the "\$" symbol in the data. For example, if you have the Currency symbol set as "CDN".

```
>set currencysymbol "CDN"
```

Suprtool will replace the "\$" after the edit-mask has been applied with CDN, provided there is room to the left of the dollar-sign. It is recommended that if you are using multiple characters for the dollar symbol that you leave enough characters to the left of the symbol.

For example if the CurrencySymbol is defined as CDN, then you should leave two spaces to the left of a fixed dollar sign definition. If there is not enough room, to put in the currency symbol, then the dollar symbol is blank.

Overflow and limits

An edit mask is limited to 32 characters in total for both numeric and byte type fields. If data overflows the edit-mask, by default Suprtool will fill that field with asterisks. There is an option to have Suprtool stop when it encounters a formatting overflow:

```
>set editstoperror on
```

will force Suprtool to stop if there is data left over to place when applying the edit-mask. With numeric-type fields, leading zeroes do not cause overflow.

Enhancements in Version 4.7.02

\$Number Function

Suprtool now has the ability to accept free-form "numbers" as display data types. This means numbers in the form:

```
1234.45-  
-12345  
-123.2134  
12343  
$123.45
```

can now be accepted and converted to any other numeric data type. Consider the following data:

Item-number	New-Price
12345	+123.45
34563	+ 27.5
21312	+ 1.545

Suprtool can now read and convert the data in New-Price using the number function. Let's say we want New-Price to be a double integer and currently occupies eight bytes starting in position six. Here is the task you would use to convert the New-Price free-format number into a double integer.

```
>in mynums  
>def item-number,1,5,byte  
>def new-price-ascii,6,8,display  
>def new-price,1,4,double  
>item new-price-ascii,dec,2  
>item new-price,dec,2  
>ext item-number  
>ext new-price=$number(new-price-ascii)  
>out somefile,link  
>xex
```

The \$number function takes the free-format number and makes it a valid display number. It will determine the decimal, sign and add leading zeroes. It will round the number to the defined number of decimal places.

In the case of the 1.545 number, Suprtool will round the value to be 1.55, since the given number of decimal places is two and the following value is five or greater. If you have a whole number such as 54, with no decimal point the value becomes 54.00.

Suprtool will not accept data that has:

```
More than one sign.
More than one decimal place.
Spaces in between numbers.
Signs that are in between numbers.
Characters that are not over punch characters.
Fields that when edited do not fit in the defined space for the
display field.
```

You can control the character that defines the currency, thousand and decimal symbol for other currencies and formats using the following commands:

```
>set decimalsymbol "."
>set thousandsymbol ","
>set currencysymbol "$"
```

Suprtool in the above case will strip the currency and thousand symbols and use the decimal symbol to determine the number of decimal places. You can set these characters to any values you want but the defaults for each are used in the above set commands. The decimal and thousand symbols are only single characters. The currency symbol allows for four characters.

Suprlink Join Command

Suprlink can now join files together that have multiple key records in each file, what has been come to be know as a many-to-many link. Suprlink has traditionally been able to link an Input file with many records with the same key to a Link file that has a single record with the same key value.

The Join command, will now link two files with many key records in both the input file and the "Linking" file. The syntax of the Join command is exactly the same as the Link command so a sample task would look as follows:

```
+input ordhist
+join orders
+output custord
+xeq
```

The above task will link multiple records of the file ordhist, to the multiple records of the file in orders. This assumes that the files are sorted by a common key. In SQL terms this is known as an Inner Join. An Outer Join, one where the keys do not necessarily have a match can be achieved by adding the optional keyword to the Join command:

```
+input ordhist
+join orders optional
+output joined
+xeq
```

In SQL parlance, once again you can achieve both a Left Outer Join and Right Outer Join by reversing the order of the files, between the input and the join commands.

To give you an example of how the Join operation would work consider the following data. First we have an inventory file with multiple records for the same product-no. This data is stored in the file dinv:

```
50512001 {Rest of data}
50512001 {Rest of data}
50512003 {Rest of data}
```

The next file will have sales records, once again with multiple key values, this data is stored in the file dsales:

```
50512001 {Rest of data}
50512001 {Rest of data}
```

If you did the following task assuming both files are sorted by the product-no:

```
+in dinv
+join dsales
+out invsales
+xeq
```

The resulting file would have four records, with the multiple matching dinv and dsales records. The record layout would have the dinv information first followed by the dsales information. If you add the optional keyword on the join command the resulting file would have 5 records. The matching 4 records from dinv and dsales as well as the dinv record that did not match with the numeric fields set to zero and the byte fields set to spaces.

Only one Join operation is allowed per task.

By default, Suprlink will join files based on the primary sorted key in the self-describing file. You can specify a secondary key for the files to be joined on in a similar manner to how the Link command did:

```
+in orders
+join dsales by order-no product-no
+out ordsales
+xeq
```

\$Split Function

Suprtool can extract portions of a byte field based on the occurrence of certain characters.

Consider the following Data:

```
Armstrong/ Neil/ Patrick
Green/ Bob/ Miller
Fritshaw/ Elizabeth/
Edwards/ Janine/
Armstrong/Arthur /Derek
```

The \$split function can extract each token into separate fields. The syntax for the \$split function is:

```
$split(Field,Start Character,occurrence,End Character,occurrence)
```

The following task will \$split the data in the wholefield into three separate fields. This assumes that the file namefile is a self-describing file with a field called wholename.

```

>in namefile
>define lastname,1,30
>define firstname,1,20
>define middlename,1,20
>extract lastname = $split(wholename,first,"/")
>extract firstname=$trim($split(wholename,"/","/"))
>extract middlename=$trim($split(wholename,"/",2," ",2))
>out names,link
>xeg

```

The first extract statement tells Suprtool extract the bytes from the field wholename, starting at the beginning (first keyword), and stopping at the "/" character. The second extract statement, tells Suprtool to extract the bytes between the first occurrence of the "/" character to the next occurrence of the "/" character, and then that string is trimmed of spaces as it is nested within the \$trim function.

The third and final extract statement tells Suprtool to extract the bytes beginning with the second occurrence of the "/" character to the second occurrence of the space character.

If the target field is not long enough to hold the data Suprtool will abort with an error. You can easily prevent this from happening on blank fields by nesting the \$split statement within a \$trim or \$rtrim function.

The \$split function also has a Last keyword, whereby you can split the field from a given occurrence of a character to the end of the field. So in the given example from above the extracting out of the middlename could be coded as such:

```

>extract middlename=$trim($split(wholename,"/",2,last))

```

The above means to extract out all the data from the second occurrence of the "/", to the end of the field and trim all spaces.

\$SubTotal Function

Suprtool now has the ability to keep a running subtotal for any numeric field based on a given sort key. The target data must be a packed field with 28 digits, in order to help avoid overflow issues.

A sample use of the \$subtotal function could be:

```

>def mytotal,1,14,packed
>get orders
>sort order-number
>ext order-number
>ext part-number
>ext description
>ext sales-amount
>ext mytotal = $subtotal(sales-amount,order-number)
>out sales,link
>xeg

```

This would result in a file containing a running subtotal in the field mytotal for a given order-number. You could then generate a simple report with the simple Suprtool commands:

```

>in sales
>list standard
>xeg

```

The basic syntax for the \$subtotal function in the extract command is:

```
extract targetfield = $subtotal(field,sort-field)
```

You must specify the sort command before referencing the sort-field in the \$subtotal function. You can subtotal up to ten fields per pass and the \$subtotal function is also available in the if command, however, is of limited use.

\$Total Function

Suprtool now has the ability to keep a running total for any numeric field. The target data must be a packed field with 28 digits, in order to help avoid overflow issues. A sample use of the total function could be:

```
>def mytotal,1,14,packed
>get orders
>ext mytotal = $total(sales-amount)
>xeg
```

You can total up to ten fields per pass and the \$total function is also available in the if command, however, is of limited use.

\$Counter Function

For years Suprtool has had the ability to output a record number to an output file with the num option of the output command:

```
>in mysdfile
>out myfile,num,data
```

The above would generate an output file called myfile, however, you would lose the SD information and you can only put the number at the beginning or the end of the data. Suprtool now has a counter function that allows you to place a \$counter at any spot as well as preserve the SD information.

```
>in mysdfile
>def mycount,1,4,double
>ext field1
>ext field2
>ext mycount=$counter
>out myfile,link
>xeg
```

The file myfile will be self-describing and contain the fields field1, field2 and mycount. The field mycount is defined as a double integer, since this is the only field type that the \$counter function can use. Each record will have a unique ascending number starting with one.

Cleaning your Data

In this day and age of migrations we were looking at issues that customers have run into when importing data into new databases. What came from this investigation were ways to clean up your data in any given byte type field.

We have added two methods to clean your data, you can use Suprtool to clean an individual byte type field, or STExport to clean all of the byte-type fields for a given file that you are exporting.

Suprtool

Sometimes un-printable or extraneous characters get stored in files or databases that have no business being there. This may be some tab characters in an address field or perhaps an embedded carriage return or line-feed. Suprtool now supports the clean function which will replace individual characters for a given byte field.

There are three things that Suprtool needs to know in order to "clean" a field. Suprtool needs to know which characters it needs to clean, what character it needs to change the "bad" characters to, and also what field does it need to clean.

Defining a Clean Character

The clean command is used to tell Suprtool what characters it needs to look for in a given byte type field. For example:

```
Clean "^9", "^10", "."
```

will tell Suprtool to replace the tab character (Decimal 9), Line Feed (Decimal 10), and a period to whatever the clean character is set to. The clean command takes both, decimal notation and the character itself, however, it is probably most convenient to use the Decimal notation for the characters that you wish to clean. The decimal notation is indicated by the "^" character.

Setting the Clean Character

By default, Suprtool will replace any of the characters specified in the Clean command with a space. You can specify what character to use to replace any of the characters that qualify with the following set command:

```
>set CleanChar "."
```

This will set the character to replace any of the qualifying "to be cleaned" characters to be a period.

Cleaning a Field

You call the clean function, the same way you normally use other functions available to if and extract. For example:

```
ext address1=${Clean(address1)}
```

shows how to clean the field address1. You do not necessarily need to have the target field be the same as the source field.

```
def new-address, 1, 30  
ext new-address=${Clean(address1)}
```

Cleaning your data

An example of how easy it would be to clean your database of certain "bad" characters in byte-type fields would be as follows:

```

>base mydb,1,;
>get customer
>Clean "^9","^10","^0","^7"
>set Cleanchar " "
>update
>ext address(1) = $Clean(address(1))
>ext address(2) = $Clean(address(2))
>ext address(3) = $Clean(address(3))
>xreq

```

The above task will look at the three instances of address and replace the tab, linefeed, null and bell characters with a space.

STExport

This same feature has been added to STExport, except that STExport will automatically clean all the byte type fields for a given SD file. The commands are very similar, except STExport just needs to know what the replace character should be and what characters it needs to look for.

```

$ in mysdfile
$Clean "^9","^10","^0","^7"
$set Cleanchar " "
$out myexport
$xreq

```

Since the Cleanchar is by default set to space, the above task could simply be:

```

$in mysdfile
$Clean "^9","^10","^0","^7"
$out myexport
$xreq

```

Clean Command Syntax

The Clean command has improved syntax to specify which characters to look to replace. You can specify special characters Decimal 0 thru Decimal 31 via the command:

```
Clean special
```

You can also specify a range or characters by using the following syntax:

```
Clean "^0:^31","^240:^255"
```

This enhancement makes it much easier to define characters to search for and clean in both Suprtool and STExport.

Outcount and Fullcount

For years Suprtool has had a jcw and a variable to communicate how many records have been selected. The SuprtoolOutCount JCW and SuprtoolFullCount Variable, are set at the end of each task with how many records have been selected. Suprlink and STExport now have their own variables and jcw's.

They are:

```
SUPRLINKOUTCOUNT
SUPRLINKFULLCOUNT
STEXPORTOUTCOUNT
STEXPORTFULLCOUNT
```

On MPE/ix, it is recommended that you use the Fullcount variables when checking the number of records.

STExport Escape Command

Many SQL importers allow you to add an escape character in front of characters that may mean something else to the import program. For example if the import program thinks that the delimiter character is a comma, the importer may treat a comma in an address field as an indication to move to the next field, which will throw of the import.

Some import programs, will treat the next character as data as opposed to a delimiter if the character is preceded by an escape character, such as a slash. Thus when the field is analyzed by STExport the data that originally started as:

```
"Niagara Falls,Ontario, Canada"
```

would be transformed to be:

```
"Niagara Falls/,Ontario/, Canada"
```

This function will not work on fixed columns and can be invoked with the escape command:

```
escape delimiter quote eol "/"
```

The above command will take the defined delimiter, quote and Eol and escape with a "/", if found in any byte type field.

Table Filename

Previously the permitted length for the filename for the Table command was 36 characters. This has been increased to 80 characters.

Bugs Fixed

Bugs Fixed In Suprtool 4.8.11

Join Command. When the Join command was used in Suprlink and the Input file has a considerably smaller flimit than the Join file, the Output file would not be built large enough.

Dup Command. Suprtool 4.8.10 would abort on a duplicate none key operation on a file greater than 5,000 bytes (approx)

Chain Command. Suprtool's Chain command with a key value from a Table would not find some entries in Master Datasets for an Omnidex key in Omnidex 3.07.55.

KSAM files. Suprtool and FCOPY for that matter, would skip some records when not accessing records with a ;nocopy file equation and using an if command, or in the case of FCOPY, using the ;exclude option. We are looking into a work around for Suprtool 4.9, however, the current work around is to open the file in a manner so that we are reading record by record as opposed to blocked reads.

Bugs Fixed In Suprtool 4.8.10

\$Number Function. The \$number function would either add garbage onto the end of a conversion or two zeroes if the field did not have a decimal point.

Bugs Fixed In Suprtool 4.8.02

Get Command. The get command would not get end of file signal properly if the dataset was empty and Set FastRead was on.

Table Command. The information about the data loaded in a Table would be lost if the table data being referenced was the second held table and the previous task involved a chain command.

Bugs Fixed In Suprtool 4.7.12

SubTotal Function. The \$subtotal function would fail if the size of the Output buffer was larger than the size of the Input buffer.

Bugs Fixed In Suprtool 4.7.11

Variable Substitution. Suprtool would report the error:

```
Error: >KEY has 2-4 parms: pos,len[,type][,DESC].
```

when resolving a variable that resolved to a blank line. This is now fixed in Suprtool 4.7.11.

Total Function. The \$total function would appear to accumulate incorrectly when sorting in the same task.

SubTotal Function. The \$subtotal function would not work if run in the same copy of Suprtool if the previous task used the Duplicate command.

Bugs Fixed In Suprtool 4.7.10

Incorrect Flimit. Suprtool would incorrectly calculate the flimit on an output file when using Numrecs 100%, and if the input file was very large.

\$Split generating random characters. The new \$split function would put random characters at the point where the split would occur in some cases.

\$Split reported bogus error on repeated task. The new \$split function would incorrectly report an error in a second task with multiple \$split operations.

\$Number decimal only numbers incorrect. The new \$number function did not handle numbers that consisted of only a decimal place followed by any number of zeroes and a number, as in .01 thru .09.

Empty Join File caused abort. Suprlink would abort if the Join file was empty.

Join File held open. Suprlink would hold the Output file open after the task was completed.

\$Subtotal incorrect. Suprtool would give incorrect numbers for a \$subtotal function in certain cases.

Data Corruption. Suprtool write incorrect data at the end of each block if the record size was greater than 10,000 bytes.

Bugs Fixed In Suprtool 4.7

Incorrect record Number. Suprtool would incorrectly report the record number when an Illegal Ascii digit was encountered on a Duplicate operation. We no longer attempt to show the record number from the Input source.

Set Limits Tablesize. Suprtool would report an error on a second Set Limits TableSize command if the value given was larger than the previous.

Extract from a Table. Suprtool would incorrectly report an error in some cases when doing an update from a table. The error "Field offset is beyond the input record

length" was incorrectly hit if the input file was smaller than the actual length of the table file.

\$Counter Function. Suprtool did not correctly reset the \$counter variable in between tasks.

Define Commands. The number of Define commands allowed has been increased to 768 defines. The number of defines allowed used to be a variable number dependant on various system settings, this was changed in Suprtool 4.4.10 to be a fixed structure.