Suprtool 6.1.11 for HP e3000:

Change Notice

by Robelle Solutions Technology Inc.

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Introducing Suprtool Version 6.1.11

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 6.1.11

- Rport has a new command called Hide which is intended to not report on a field in an SD file.

- Rport has a new command called Comma, which will place appropriate commas in an ascii field that was converted from a numeric field.

- There is a new setting in RPORT that is called set maxlen on, which calculates the maximum size that a field can be, including commas and dollar signs.

- Suprtool/Open now defaults to /bin/bash when a users shell is not found in the user information.

- The $eom/$bom function wouldn't work properly when $stddate was nested in a $month function and the to month had 31 days.

Highlights in Suprtool 6.1.10

- Sdlinux version is available for Linux to convert the .sd file for use on Linux is now available on Linux. You can now directly copy a data file and sdfile from HP-UX and convert it for use on Linux.

- Two new sub-functions of $BOM and $EOM are now available in the $stddate and $month functions. The $BOM function returns the starting day of the month and the $EOM returns the last date of the month for a given month.

- String functions in Suprtool now have better length and bounds checking of the 4095-byte string limit.

- Rport a new simple report writer has been added to the Suprtool suite of products.

- Set Limits Override has been added to the Suprtool for MPE version. (6.1.01)

Highlights in Suprtool 6.1

- Suprtool has a new function called $length that will return a double integer value of the length of a byte and/or numeric field.

- Suprtool has a new option called Set EditSignNeutral which tells the $edit function to treat Neutral zoned and packed fields to be positive and treated as such by the $edit function.

- Suprlink now supports 8192 bytes on both the input file and the link file.

- Suprlink now supports 16384 bytes on the output file in Suprlink

- Stexport now supports 8192 bytes on both the input file and output files.

Highlights in Suprtool 6.0

- The List command now has a NOSAMETO option to turn off the SAMETO feature.

- Set Backwardchain On, will cause the Chain command to do a backward chained read.

- Suprtool has some new Set Commands such as, InitNumExtent, MaxNumExtent, SortExtMem and SortMemAddr, which can be used to reduce the number of Extents used in some files and internal sort files.

- STExport has a new set command called Set Excel Leadzero On which tells the Excel command to add leading zeroes to the fields specified in the Excel Preserve command.

- Suprtool has a new function available to the if/extract commands called $inrecnum, which expects a double integer result.

- Suprtool has a new function called $leadzeroz, which will add leading zeroes to a display field and will optionally justify the field.

- Suprtool has a four new string handling functions, specifically, $justifyl, $justifyr, $leadzerob and $respace.

Highlights in Suprtool 5.9

- A new $month function in the if / extract option allows you to add or subtract a number of months from a given date.

- STExport has a new command called Excel command which allows you to format a field in a format that allows leading zeroes or spaces to be preserved.

- A new option called JSON will output SD data in Java Script Object Notation.

- Suprtools new banner would show the incorrect day and day of week in certain circumstances. This was cosmetic only.

- Suprtool previously may have found "bad" records in jumbo master datasets under certain conditions.

- Suprtool/Open now has the option to read MySQL databases. We are looking for feedback on where to take this feature.

Known Problems

Set Itemlock does not work in one particular case.

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.

Suprtools default prefetch value has been changed from 2 to zero.

Ksam64 files were not assumed to be Self-describing like CM KSAM and KSAMXL files when it was the input file and had labels.

A warning will print if a non-regular SD file is loaded into a Table with the data option.

An error will print if an extract command attempts to reference data when loaded from table that in turn was loaded when using a non-regular SD file, such as KSAM/XL, KSAM64 and CM KSAM.

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 various formats, and you can 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.

Installation Instructions

All Robelle software is installed via download from our website. 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-stprod-ftp.html

and here for the WRQ download method:

http://www.robelle.com/downloads/install-stprod-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 289.480.1060 or you can e-mail your question to support@robelle.com.

Enhancements in Version 6.1.11

Introduction

Suprtool is constantly being updated with new features. The following section describes the new enhancements to Suprtool since Suprtool 6.1.10.

Rport Set Maxlen

Rport will by default calculate the maximum size of a field, including, commas, decimals and dollar signs. The previous version just took into account, decimals. This is on by default, you can just use the old calculation by adding set maxlen off to your rportmgr file.

Rport Comma

Rport has a new command called comma, where you can specify a fieldname or list of fieldnames to tell Rport to add commas to a given numeric field, when it is reported on and converted to ascii. The same rules will apply for a given fields subtotal and total field. This command can only be entered after the input command.

Rport Hide

Rport has a new command called Hide which when given a fieldname will remove that field from the report. The report will be adjusted accordingly and also the Hide command must be entered after the input command.

System Commands

If the user id isn't found or a shell name isn't returned the Open version of Suprtool suite of products will assume a shell of /bin/bash.

$Month($stddate())

The combination of nested $stddate within $month would handle months with 31 days incorrectly if the from date was a month with less that 31 days and the to month was a month with 31 days.

Enhancements in Version 6.1.10

Introduction

Suprtool is constantly being updated with new features. The following section describes the new enhancements to Suprtool since Suprtool 6.1

Rport

All versions of Suprtool, MPE, HP-UX (PA-Risc and Itanium), and Suprtool / Open have a new component called Rport, which is a simple report writer.

The code below represents one of the more complicated reports and shows some of the attributes that you can control. Rport works off of self-describing files and is available on MPE, HP-UX (PA-Risc and Itanium) and on all Linux platforms that Suprtool/Open runs on.

The Title command divides the lines into quadrants, primarily, left, center and right and two lines are supported. The heading column option prints the Heading information specified in each column. You can also specify Heading Fieldnames, where Rport will divide the field name into each column, and you can do your own layout for each Heading Line:

```
head 1 Add " CharIntege    Double      Packed     Packed*               Quad"
head 1 Add "   IdLogica    DblLog Zoned"
head 2 add "Field Field    Field      Field      Field          Field"
head 2 add " Field Field      Field Field"
```

The Size command tells Rport the maximum size of the column for the data. By default, Rport picks the maximum size that a field will be when converted to Ascii, as shown in the following table:

Field Format	Output Size
I1, J1	6 bytes
I2, J2	11 bytes
I3, J3	16 bytes
I4, J4	20 bytes
K1	5 bytes
K2	10 bytes
E2	12 bytes
E4	23 bytes
R2	12 bytes

Zn	*n*+1 bytes
P*n*	*n* bytes

The integer specified beside the fieldname is the length for the field to use for the report. If the data overflows the field will be filled with asterisks. The Subtotal and Total commands are pretty self-explanatory.

```
in file1.rporttst
title line 1 left RPNAME "SampReport"
title line 1 center RPCOMPANY "Robelle Solutions"
title line 1 right rppageno tag "Page No : "
title line 2 left rpdate tag "Date : "
title line 2 right rpruntime tag "Run Time : "
head 1 col "Char"
head 2 col "Field"
head 1 col "Integer"
head 2 col "Field"
head 1 col "Double"
head 2 col "Field"
head 1 col "Packed"
head 2 col "Field"
head 1 col "Packed*"
head 2 col "Field"
head 1 col "Quad"
head 2 col "Field"
head 1 col "Id"
head 2 col "Field"
head 1 col "Logical"
head 2 col "Field"
head 1 col "DblLog"
head 2 col "Field"
head 1 col "Zoned"
head 2 col "Field"
size int-field 8
size dbl-field 8
size packed-field 7
size packed*-field 7
size quad-field 7
size logical-field 7
size dbllog-field 7
size zoned-field 8
subtotal int-field dbl-field packed-field packed*-field quad-field id-field
subtotal logical-field dbllog-field zoned-field
total int-field dbl-field packed-field packed*-field quad-field id-field
total logical-field dbllog-field zoned-field
out REPORT01
xeq
```

The above code creates the following report. The report shows that it can handle most data types (the field names are the data types) and provides a simple layout and automatically aligns the subtotals and the total lines. The subtotaling works off the sorted field, (in this case char-field) and prints a subtotal line each time the char-field changes.

```
  SampReport                              Robelle Solutions                                    Page No : 1
  Date : 20191024                                                                       Run Time : 12:45
   Char    Integer      Double     Packed  Packed*       Quad      Id    Logical     DblLog      Zoned
  Field      Field       Field      Field    Field      Field   Field      Field      Field      Field
  11111      11.11      111.11    +111.11  +111.11     111.11       1      11.11     111.11     111.11
             11.11      111.11    +111.11  +111.11     111.11       1      11.11     111.11     111.11
```

```
22222    22.22    222.22  +222.22  +222.22   222.22     1    22.22    222.22    222.22
22222    22.22    222.22  +222.22  +222.22   222.22     2    22.22    222.22    222.22
         44.44    444.44  +444.44  +444.44   444.44     3    44.44    444.44    444.44
33333    33.33    333.33  +333.33  +333.33   333.33     1    33.33    333.33    333.33
33333    33.33    333.33  +333.33  +333.33   333.33     2    33.33    333.33    333.33
33333    33.33    333.33  +333.33  +333.33   333.33     3    33.33    333.33    333.33
         99.99    999.99  +999.99  +999.99   999.99     6    99.99    999.99    999.99
44444    44.44    444.44  +444.44  +444.44   444.44     1    44.44    444.44    444.44
44444    44.44    444.44  +444.44  +444.44   444.44     2    44.44    444.44    444.44
44444    44.44    444.44  +444.44  +444.44   444.44     3    44.44    444.44    444.44
44444    44.44    444.44  +444.44  +444.44   444.44     4    44.44    444.44    444.44
        177.76   1777.76 +1777.76 +1777.76  1777.76    10   177.76   1777.76   1777.76
55555    55.55    555.55  +555.55  +555.55   555.55     1    55.55    555.55    555.55
55555    55.55    555.55  +555.55  +555.55   555.55     2    55.55    555.55    555.55
55555    55.55    555.55  +555.55  +555.55   555.55     3    55.55    555.55    555.55
55555    55.55    555.55  +555.55  +555.55   555.55     4    55.55    555.55    555.55
55555    55.55    555.55  +555.55  +555.55   555.55     5    55.55    555.55    555.55
        277.75   2777.75 +2777.75 +2777.75  2777.75    15   277.75   2777.75   2777.75
        611.05   6111.05 +6111.05 +6111.05  6111.05    35   611.05   6111.05   6111.05
```

$BOM and $EOM

Suprtool has two new subfunctions called $BOM and $EOM which are now available in the $stddate and $month functions. The $bom returns the beginning of the month date, "01" and the $eom, returns the end of the month for the given date.

For Example, the $stddate function will return the converted curdate, with either the beginning of the month for the day or the end of the month for the given curdate.

```
in file131
item curdate,date,ddmmyyyy
ext curdate
ext curbom=$stddate(curdate,$bom)
ext cureom=$stddate(curdate,$eom)
```

You can also use $stddate to convert a date that is already in ccyymmdd format to the beginning of the month or the end of the month respectively.

You can also use $bom and $eom as part of the $month function even if the date is not in ccyymmdd format.

```
Item curdate,date,ddmmyyyy
ext curdate
ext curbom=$month($stddate(curdate),+6,$bom)
ext cureom=$month($stddate(curdate),+6,$eom)
```

String Function Checks

Some of the String functions in Suprtool did not have proper length checks in place to insure that an overflow wouldn't occur for specific functions. The length for most string fields to be checked is 4095 bytes. Suprtool will now throw a more generalized error of:

```
Error: Field in function is greater than 4095 bytes
```

If a function is longer than the 4095, the field is potentially corrupted and/or truncated.

Sdlinux for Linux

SDLinux is a utility that will convert the Self-Describing information, such that Suprtool/Open can read the file. Specifically, it is meant to convert the .sd file from an HP-UX system to be read on Linux natively.

Sdlinux, will change the sd version field which tells Suprtool/Open the endianness of the sd file.

SD Version	Endianness	Extended Names
B.00.00	BIG (HP-UX) LITTLE(LINUX)	NO
B.00.01	BIG (HP-UX) LITTLE(LINUX)	YES
B.00.02	BIG	NO
B.00.03	BIG	YES

The sdlinux utility has four options, -f, -r, -h and –d. Only one option can be specified at any given time:

Option	SD Version	Integer Field
-f	B.00.00 becomes B.00.02 and B.00.01 becomes B.00.03	Any integer/logical field gets flagged as BE.
-r	B.00.02 becomes B.00.00 and B.00.03 becomes B.00.01	Any integer/ logical field gets the Endianness flag turned off.
-h	B.00.02 becomes B.00.00 and B.00.03 becomes B.00.01	No effect.
-d	No effect.	Any integer/logical field gets the Endianness flag turned off.

The sdlinux utility gets run with the above options and a filename for an argument as in:

```
./sdlinux '-ffilename'
./sdlinux '-rfilename'
./sdlinux '-hfilename'
./sdlinux '-dfilename'
```

The filename specified just needs to be the data file name not the sd filename. Regardless, sdlinux will figure out what to do if the .sd extension is in the filename argument.

Set Limits Override On | Off

Set Limits OverRide tells Suprtool for MPE to ignore any subsequent Set Limits TableSize command. This was added since the new MPE table size is now 2 GB and works well without any limit. It was also added as Suprtool 4.4 and lower did not calculate the Set Limits Tablesize limit properly. So, if a user had Set Limits Tablesize 25, Suprtool would allow for a table greater than that old limit, while the new version of the table would stop with "Table Full" as prescribed by the command.

Overriding the TableSize, allows for customers to set in a global suprmgr file and not have to search thru code to remove the specific command.

Enhancements in Version 6.1

$Length

Suprtool has a new function called $length which returns a double integer number that is the length of a given byte or numeric field. For byte type fields Suprtool starts at the right most byte position to look for any non-space character and calculates the length of the data. For numeric fields Suprtool will convert the number to display and starting on the left will search for any non-zero character to establish the length.

Below is an excerpt from the manual, that describes how it can be used:

$LENGTH (Works on Byte-type and numeric fields)

Purpose of the $length function is to return the length of the specified byte field as if the field has had the $rtrim function applied or the position of the rightmost non-space character.

If Usage:

```
if $length(NAME) >= 15
```

Extract Usage:

```
Define LenField,1,4,double
extract LenField=$length(byte-field)
```

$ROBELLE variable

The $ROBELLE variable on HP-UX and Open platforms has been expanded to 55 characters for the $ROBELLE directory name when you are installing outside of /opt/robelle. You use the $robelle variable to tell suprtool and all of the programs that come with suprtool where to find where it is installed.

Set EditSignNeutral

The $edit function converts data from numeric to byte and applies an edit mask to format the data. Neutral data is not considered to be signed so if you have neutral

data, a positive sign will not be applied to the edit mask. With Set EditSignNeutral turned on, Suprtool will consider the Neutral data to be positive and therefore print out the "+" or "DR", depending on the edit-mask used.

```
Set EditSignNeutral On
```

STEXPORT

STExport now supports 8196 bytes on the input, and the output file.

SUPRLINK

Suprlink now supports 8196 bytes on the input file, link file and 16384 bytes on the output file.

Enhancements in Version 6.0

$List NoSameTo

The List command now has a NOSAMETO option to turn off the SAMETO feature.

BackwardChain

The Set command, BackWardChain when turned on will tell the Chain command to do a Backward Chained read.

Extents

Suprtool for MPE, now has features designed to help control and reduce the number of extents used in Output files and some internal files.

SET INITNUMEXTENT number

Set InitNumExtent, when specified with a number between 1 and 32 and will use that number on the creation of the Output file, in the Initial Extents parameter.

This can help with extent allocation depending on your systems disc space and fragmentation. Keep in mind if you set InitNumExtent to 1, and MaxNumExtent is also set to 1, all of the disc space required for the output file will attempt to be allocated at once.

When a value between 1..32 is specified for InitNumExtent, and InitExtents is turned on, the InitExtents flag will be turned off.

SET MAXNUMEXTENT number

Set MaxNumExtent Set MaxNumExtent, when specified with a number between 1 and 32, will use that number on the creation of the Output file.

This can help with extent allocation depending on your system disc space and fragmentation.

Keep in mind if you set InitNumExtent to 1, and MaxNumExtent is also set to 1, all of the disc space required for the output file will attempt to be allocated at once.

It is also important to note that if MaxNumExtent is set to any value between 1..32, and the InitExtents flag is on, the InitExtents flag will be turned off.

SET SORTEXTMEM ON

Set SortExtMem, when turned on reduces some of the space used for memory mapped file used for sorting. The algorithm for the amount of space used is the flimit of the file plus 10 million bytes.

You can increase the adder, by entering a number between 10 million and 2billion with the set SortMemAddr command.

Turning this option on may cause errors indicating that sort overflowed or hit a bounds condition. You can increase the amount of space again by using set SortMemAddr command.

SET SORTMEMADDR number

Set SortMemAddr accepts a number between 10 million and 2billion which will add space to a memory mapped file used during the sort process and is to be used with Set SortExtMem, when it is turned on and the default adder value is not enough to prevent a Bounds condition.

$INRECNUM

The if / extract commands can now utilize a new function called $INRECNUM, which allows you to use the input record number in certain tasks. For example, the task below would find record number 11.

```
In somefile
If $inrecnum=11
```

You can also, utilize the $inrecnum function in the extract command:

```
In somefile
Def recnum,1,4,double
Ext recnum=$inrecnum
```

The $inrecnum function was designed to find records especially in the instance where duplicate records are in a particular data source and cannot be isolated by any other means.

describes the new enhancements to Suprtool since Suprtool 5.9

$LEADZEROZ

The if / extract commands can now utilize a new function called $LEADZEROZ, which allows you to add leading zeroes to a specific display field. This was designed specifically for the extract command and fixing up data but can be used in the if command as well.

$NUMBER is capable of fixing up numbers, but the new $LEADZEROZ function is more lightweight and simply adds leading zeroes and has an option to justify right as shown below. The source data looks like this:

```
/PRINT LEADZERO
1
 2
  3
   4
    5
     6
      7
       8
       9
10
12
12345
220
```

You can format with the following:

```
>IN LEADZERO.SUPRTEST
>DEF A,1,12,DISPLAY
>EXT A=$LEADZEROZ(A,J)
>out *
>xeq
000000000001
000000000002
000000000003
000000000004
000000000005
000000000006
000000000007
000000000008
000000000009
000000000010
000000000012
000000012345
000000000220
IN=13, OUT=13. CPU-Sec=1. Wall-Sec=1.
```

The $LEADZEROZ function cannot fix issues like commas and decimal places in a display field, this can be handled by the $number function.

$LEADZEROB

The if / extract commands can now utilize a new function called $LEADZEROB, which allows you to add leading zeroes to a specific byte field. This was designed specifically for the extract command and fixing up data but can be used in the if command as well. The data looks like this:

```
/PRINT LEADZERO
1
  2
    3
      4
        5
          6
            7
              8
              9
10
12
12345
220
```

You can clean it up with the following:

```
>IN LEADZERO.SUPRTEST
>DEF A,1,12,byte
>EXT A=$LEADZEROB(A,J)
>out *
>xeq
000000000001
000000000002
000000000003
000000000004
000000000005
000000000006
000000000007
000000000008
000000000009
000000000010
000000000012
000000012345
000000000220
IN=13, OUT=13. CPU-Sec=1. Wall-Sec=1.
```

$JUSTIFYL

The if / extract commands can now utilize a new function called $JUSTIFYL, which allows you to left justify text to the left side of a field.

```
>in leadzero
>def b,1,12,byte
>ext b=$justifyl(b)
>out *
>xeq
1
2
3
4
5
6
7
8
9
10
12
12345
220
IN=13, OUT=13. CPU-Sec=1. Wall-Sec=1.
```

$JUSTIFYR

The if / extract commands can now utilize a new function called $JUSTIFYR, which allows you to right justify text to the right side of a field.

```
>in leadzero.suprtest
>def a,1,12,byte
>ext a=$justifyr(a)
>out *
>xeq
           1
           2
           3
           4
           5
           6
           7
           8
           9
          10
          12
       12345
         220
IN=13, OUT=13. CPU-Sec=1. Wall-Sec=1.
```

$RESPACE

The if / extract commands can now utilize a new function called $RESPACE, which allows you to fixup byte data that has multiple spaces in between text. For example, your data looks like this:

```
>in respace.suprtest
>def text,1,40
>ext text
>out *
>xeq
this  is  a  test
 this is a        test
this is a   test
this        is a test
this   is   a   test
this is a test
 please note this  is   a     test
this is  a   test
this   is      a       test
this is a test
      this   is   a   test
 this is a test
this    is    a    test
this is a test
dummy   record
this is a  not   test
silly   record
IN=30, OUT=30. CPU-Sec=1. Wall-Sec=1.
```

It can easily be fixed up and converted to what is shown below:

```
>in respace.suprtest
>ext text=$respace(text,J)
>out *
>xeq
this is a test
this is a test
this is a test
this is a test
this is a test
this is a test
please note this is a test
this is a test
this is a test
this is a test
this is a test
this is a test
this is a test
this is a test
dummy record
this is a not test
silly record
IN=30, OUT=30. CPU-Sec=1. Wall-Sec=1.
```

Bugs Fixed

Bugs Fixed in Suprtool 5.7.11

Set CleanChar. Set CleanChar to a single character, after a Set CleanChar "<null>" would not come into effect due to the special null flag not being reset. This was in both Suprtool and STExport.

Bugs Fixed in Suprtool 5.7.10

Table, Data and Hold. Suprtool would lose track of Table data field information, on tables held with the hold option in subsequent tasks.