Suprtool 5.5.05 for AMXW:

Change Notice

by Robelle Solutions Technology Inc.

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Introducing Suprtool Version 5.5.05

Overview

Use Suprtool/AMXW to read, select, and sort data from Oracle, Allbase and Eloquence databases and data files with fixed-length records. Suprtool/AMXW is designed to be similar to Suprtool for MPE while providing necessary HP-UX features. It is designed to work with AMXW an MPE environment from Speedware that runs on other platforms.

Suprlink/AMXW provides high-speed data-file linking based on a sort key. Use STExport for AMXW to convert fields in a self-describing input file into an output file that can be imported into different applications.

Highlights in Suprtool 5.5.05

- Suprtool for AMXW will now detect if the output file has CCTL and will use the correct controlcode on the FWRITE to the Output file.

- Suprtool for AMXW Itanium version now supports more defined fields.

Highlights in Suprtool 5.5.04

- Suprtool would use an incorrect field definition when copying a file where the input file had a duplicate field name with different field definition, the second field would utilize the first definition. (Build 2)

- Suprtool would not load data from a table when $lookup was used in an if command and if the value did not need to be coerced to another type, Suprtool would sometimes not use the correct register location to do the compare.

Highlights in Suprtool 5.5.03

- Suprtool would give an incorrect result when doing an arithmetic expression with more than one set of brackets and the data involved is Packed-Decimal. (Itanium only)

Highlights in Suprtool 5.5.02

- Suprtool and STExport would incorrectly assume a positive sign for a packed-decimal field that had an invalid sign value, when converting from Decimal to Ascii. (Itanium only)

- Suprtool for AMXW did not allocate enough space to support the same number of defined fields and items as previous versions.

Highlights in Suprtool 5.5.01

- Set Ifouroutput on extracts would fail at xeq time with an "Unknown if execute phase" error in the PA_RISC version, when an alignment issue would occur in some circumstances.

- Suprtool for AMXW would fail to open a "KSAM" file in AMXW when the implementation was done via CISAM.

Highlights in Suprtool 5.5

- Set Fastread Off is now the default for Suprtool for AMXW when accessing Eloquence databases.

- Suprlink for AMXW would fail on a Join command after a patch to libc was applied.

- Set Oracle DataBug On | Off has been added to mimic the incorrect behaviour of writing double the number of bytes in versions 5.1 thru 5.4 and if no extract commands were in place and either set ifouroutput or set oracle integer were on and the input source was an Oracle table.

- The $edit function did not work properly with alpha based edit masks and if the target was greater than 32 characters.

- Suprtool2 for AMXW did not initialize jcw to zero. (Build 6)

- Suprtool for AMXW with varsub on would fail with an if $read expression. (Build 6)

Highlights in Suprtool 5.4

- Suprtool did not properly clear the data field information from a table at the end of a task.

- Suprtool did not properly zero out a packed field target when an table entry was not found when extracting data from a table.

- Suprtool for HP-UX on Itanium now has proper support for $atoe and $etoa.(Itanium version Only)

- Suprtool for AMXW would fail with FSERR 40 when attempting to append to a "KSAM" file.

- Suprtool for HP-UX on Itanium had problems with reading files with record sizes greater than 13700 bytes.

- Suprtool for HP-UX on Itanium would incorrectly coerce the number negative 65536 from Binary to Decimal and Decimal to Binary. (Itanium version Only)

- Suprtool for AMXW would not run an external program from inside Suprtool due to a naming conflict with some routines in the AMXW libraries, this is the Itanium version only.

- Suprtool for AMXW would not sort a file properly if the output file size was 32 bytes and a blocking factor of 16, the input file was larger and using Suprtool 5.2.12 and higher linked with AcuVision. (Fixed in Build 4)

Known Problems

There are no known problems at this time. If you have any questions or concerns or feedback, please feel free to e-mail me at: neil@robelle.com

Itanium vs PA_RISC

There are two types of machines that HP has that run HP-UX, the older machines are based on the PA_RISC chip and the new machines that use the Itanium (and Itanium 2 chips). There are also program files that are specific to each chip. PA_RISC programs can run on both PA_RISC and Itanium machines, however, Itanium programs can only run on Itanium machines.

Any program that runs on Itanium must utilize libraries that match its own program type. Therefore if a PA_RISC program runs on Itanium and looks for a library, it must find/load the PA_RISC version of the libraries that it needs and conversely an Itanium program must load the libraries specific to its type.

How to Tell what Machine I am on?

There are many ways to tell what kind of machine you are on, here are a couple:

```
uname -m
getconf MACHINE_MODEL
```

In each case the Itanium machine will typically say ia64 somewhere in the result of the above two commands. PA_RISC machines typically say "9000" somewhere in the string.

What is the Program File Type?

Since there are two types of machines there are also at least two types of program files. Suprtool is primarily either PA_RISC 1.1 or ELF-32 / IA64 which is also known as Itanium. To determine the type of program file you can use the file command:

Itanium

```
file suprtool
suprtool:       ELF-32 executable object file - IA64
```

PA_RISC

```
file suprtool
suprtool:       PA-RISC1.1 executable dynamically linked -not stripped
```

The PA_RISC binary can run on both platforms but you need to have PA_RISC libraries for Eloquence or Oracle if you are using the Oracle module. An Itanium binary will not run on a PA_RISC machine and will fail with "cannot execute".

Of course we've made a provision to identify if you are running the ia version of Suprtool in the banner and verify command with the ia after the UX :

```
SUPRTOOL/UXia/Copyright Robelle Solutions Technology Inc. 1981-2009.
(Version 5.2 Internal)  MON, JUN  8, 2009, 11:26 AM  Type H for help.
```

PA_RISC Loading

Suprtool by default looks in the libraries in any of the directories named in SHLIB_PATH. For example to insure that Suprtool resolves the library loads you can set the SHLIB_PATH system wide in your /etc/profile file in the following manner:

```
 export SHLIB_PATH=/opt/eloquence6/lib/pa11_32:/opt/oracle/lib
```

If you do not have the SHLIB_PATH variable set to a value where the libraries can be found, Suprtool will then try to load from their default names locations. For Eloquence the default location is :/opt/eloquence6/lib/pa11_32.

The Oracle interface will first try to load libclntsh.so and then attempt to load libclntsh.sl from $ORACLE_HOME/lib32/libclntsh.sl.

Itanium Loading

You can change Suprtool to pay attention to LD_LIBRARY_PATH and use dlopen to load libraries, you can set the environment variable:

```
export ROBELLE_DYN_LOAD =Y.
```

It is generally advisable to use DLOPEN or the ROBELLE_DYN_LOAD option when using the Itanium version. The PA_RISC version of Suprtool can use either type of loading, the default or the dlopen method invoked with ROBELLE_DYN_LOAD.

Running the PA_RISC version on Itanium:

You can of course run the PA_RISC version of Suprtool, however, given that the PA_RISC version requires SHLIB_PATH to point to PA_RISC libraries may go against the configuration necessary for other programs that may need SHLIB_PATH to point to Native Itanium libraries.

The solution to this is fairly simple, you can create a command file (let's say /opt/robelle/cmd/suprtool) that runs suprtool for you, of course you need to insure your path variable has /opt/robelle/cmd before /opt/robelle/bin.

You can then have the following commands in the /opt/robelle/cmd/suprtool command file:

```
export SAVED_SHLIB_PATH=$SHLIB_PATH
export SHLIB_PATH=/opt/oracle/pa_risc/lib:/opt/eloquence/lib/pa11_32
/opt/robelle/bin/suprtool $@
export SHLIB_PATH=$SAVED_SHLIB
```

Essentially all it does save the current SHLIB_PATH setting, sets it to point to PA_RISC libraries, runs suprtool and then resets the library back.

Suprtool for Itanium

Now that you know all about PA_RISC and Itanium you do need to be aware of what Suprtool for Itanium is in terms of new code and risk for potential issues. Suprtool for Itanium is completely in C code. This does not mean that it is all new C code however, the majority of the Suprtool code is still based on SPL, but is converted to C, using Allegro's SPLASH compiler.

So while the C code is new it is based on the original SPLash code, however, given differences between C and SPLash not all code can be automatically converted in some cases. We worked closely with Allegro to find ways to have the source code work and address the various issues that came up. The entire time Allegro improved the SPLash to C converter.

So while we are based on the original Suprtool we do have new code paths in the Native Itanium version and other potential issues where the C code might not work in exactly the same manner as the SPLash code.

Having said that we have tested this against our test suites, and improved and added a large number of tests to our HP-UX test suites. We also began Alpha testing 24 months ago and have been beta testing for the last year with our two best VAR customers.

Compatibility

Suprtool for AMXW would use the file size stored in the SD label as opposed to the actual physical file size that AMXW uses.

```
::FILE FILE80;REC=-80,,F,ASCII
::supramxw
SUPRTOOL/AMXW/Copyright Robelle Solutions Technology Inc.1981-2007.
(Version 5.0)  TUE, JAN 08, 2008,  2:42 PM  Type H for help.
>I STFILE
>DEF ABCXYZ,1,11
>EXT ABCXYZ
>O FILE80,LINK
>X
IN=26, OUT=26. CPU-Sec=1. Wall-Sec=1.


>FO FILE80
File: FILE80     (SD Version B.00.00)  No linefeeds
Entry:                  Offset
    ABCXYZ              X11    1
Limit: 1023  EOF: 26  Entry Length: 11  Blocking: 1
>E
::LISTF FILE80,2


ACCOUNT=  AMXWQA     GROUP=  FDE


FILENAME  CODE  -----------LOGICAL RECORD----------  ----SPACE----
                SIZE  TYP         EOF      LIMIT R/B   SECTORS #X MX

FILE80    1084  82B  FA           26       1023   1         9  1  *
```

So what happens is if an output link file is created with a file equation making the file bigger, any subsequent files that are created from the resulting output file are actually made smaller as you can see below.

```
::supramxw
SUPRTOOL/AMXW/Copyright Robelle Solutions Technology Inc.1981-2007.
(Version 5.0)  TUE, JAN 08, 2008,  2:42 PM  Type H for help.
>i FILE80
>O FILE80A
>X
Warning:  Using Output FILE80A,Link
IN=26, OUT=26. CPU-Sec=1. Wall-Sec=1.
>E
::LISTF FILE80A,2
ACCOUNT=  AMXWQA      GROUP=  FDE


FILENAME  CODE  -----------LOGICAL RECORD----------- ----SPACE----
                SIZE  TYP       EOF       LIMIT R/B   SECTORS #X MX


FILE80A   1084  11B   FA         26       1023   1         2  1  *
```

 Suprtool for AMXW now honours the physical record size and the FILE80A file will now have a record size of 80.

The HP-UX and AMXW versions of AMXW no longer have Set varsubcompat on as the default. The default is now off and can be turned on with the set command or the –cv option.

Previously, Suprtool would treat an "R" type field in an Eloquence database as an R type while the data inside Eloquence is stored and treated as IEEE therefore incorrect results would occur with coercions and arithmetic operations. Suprtool now by default maps all Real and Long fields to their respective IEEE fields. You can change Suprtool back to the previous behaviour with Set RealMap Off.

A form command will still show the fields as being "R2" or "R4", but internally Suprtool will treat as IEEE, which is how Eloquence stores and treats the numbers.

Consequently STExport will now support items in SD files that are condidered R type, however it correctly will map them to IEEE.

Suprtool/UX 5.0 is now compatible with all versions of HP-UX 11.2x, as well as Oracle version 8 and higher.

Suprtool/UX version 4.8.02 and lower is compatible with HP-UX 9.0 and higher and Oracle 7.

Fastread option is now set to On for Suprtool for HP-UX the regular version. The Dynamic loading version of Suprtool has a default value of off to start.

Suprtool 5.2 is necessary for use with Oracle 11 and case sensitive passwords.

Itanium Compatibility

There are a couple of differences in the Itanium version of Suprtool, which you need to be aware of.

The DBEdit module is not available in the Itanium versions of Suprtool. This module is invoked by the EDIT command.

The layout for the Verify command is slightly different then the PA-RISC versions of Suprtool.

CPU Serial Number (uname)

This program runs only on CPUs whose serial numbers have been encoded (the "uname" on HP-UX). If it fails to run and you get an "invalid HPSUSAN" error message, contact Robelle for assistance, via support@robelle.com or the support number at 1-800-453-8970.

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.

You can download our manuals and Change Notices in various formats and order printed (hardcopy) manuals from our web site at:

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

Installation

Overview

The following instructions describe the installation process of a new Suprtool release. The new version overwrites an existing version of Suprtool on your HP-UX system.

Installation Instructions

There are typically two main types of installations. You can find the Suprtool for AMXW regular install instructions here:

http://www.robelle.com/downloads/install-amxwprod.html

You can find the Suprtool for AMXW build on your system instructions on the link below. You will need this install if you are going to require the KSAM option, Dynamic Image loading or Omnidex support, or intend to run on Itanium:

http://www.robelle.com/downloads/install-amxwbuildprod.html

Installation Assistance

If you have any questions 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 1.800.453.8970. Technical support can also be obtained via e-mail at: support@robelle.com If your new version of software will not run, you can page someone from technical support by calling the 1.800 number, or you can typically easily run extend with the disaster option to tide you over until business hours. Instructions for this are available at:

http://www.robelle.com/disaster/

Enhancements in Version 5.5.05

Introduction

Suprtool is constantly being updated with new features. The following section describes the new enhancements to Suprtool since Suprtool 5.5.

CCTL on Output

Suprtool for AMXW now detects if the output file has cctl and if it does it will now use the correct controlcode on FWRITE.

Defined Items Support

Suprtool for AMXW now supports a greater number of defined items, equivalent to what Suprtool for MPE supports.

Enhancements in Version 5.5

Introduction

Suprtool is constantly being updated with new features. The following section describes the new enhancements to Suprtool since Suprtool 5.4.

Set Oracle

Suprtool now has a command done strictly for compatibility. In Suprtool 5.1, thru to 5.4, the output record size written out will be double the actual size when the input source was an Oracle table, either Set IFourOutput was on or Set Oracle Integer was on and no extract command was used and Output,link was not used. **Set Oracle DataBug On** can be turned on to write out double the calculated record size in case some customers had code that relied on the larger record size. The default however, is off. [5.4.16]

Data Items Support

Suprtool now supports 268 data items in both Eloquence datasets and SD files. STExport and Suprlink have also been updated to support the increased number of data items.

The number of data items supported has been reduced due to a heap corruption issue which cause an fwrite to the sort scratch file. [5.4.12]

Enhancements in Version 5.4

Introduction

Suprtool is constantly being updated with new features. The following section describes the new enhancements to Suprtool since Suprtool 5.3

Eloquence Loading

The algorithm for Eloquence routine loading has changed slightly on Itanium. Suprtool will attempt to load hpux32/libimage3k.sl and hpux32/libeqdb.sl on the second attempt to load the libraries. The algorithm is that Suprtool will first try to load the files individually, then hpux32/libimage3k.sl and then an attempt at the fully qualified filename.

Enhancements in Past Versions

Introduction

Suprtool is constantly being updated with new features.

Add Command

The Add command which allows for adding data to an Oracle table now allows for the syntax of Ownername.Tablename. The single syntax of just giving the table name will work as it always has.

SpaceNull

Suprtool has a new setting called Set Oracle SpaceNull, which when on puts spaces in any byte, Char or Date (Oracle Date) fields instead of the nulls. The default behaviour is off.

PassShift

Suprtool now has the command Set Oracle PassShift Off which turns off the default behaviour of upshifting Oracle passwords. This is to accomodate Oracle 11 which allows case sensitive passwords. The first pass on this was to allow the syntax of:

```
open oracle suprtest suprpass
```

We now honour Set Oracle PassShift for the syntax that includes the service name:

```
open oracle suprtest/suprpass@servname
```

ZonedFix

STExport now has Set ZonedFix On, this setting can be used to zero out any zoned fields that were unable to be converted from zoned to byte and typically have a "?" in the result. This is often caused by hidden characters or bad data.

PassShift

Suprtool now has the command Set Oracle PassShift Off which turns off the default behaviour of upshifting Oracle passwords. This is to accomodate Oracle 11 which allows case sensitive passwords.

Itanium

Suprtool, STExport and Suprlink are now available as Native Itanium. This represents a complete conversion of all Suprtool code to the C language. This version has many of the same components, with the exception of Dbedit. This conversion allows us to port to other platforms such as AIX and any other platforms. If you are interested in a particular platform please contact neil@robelle.com.

Bugs Fixed

Bugs Fixed In Suprtool 5.5.04

SD File Copy. Suprtool would use an incorrect field definition on a straight copy of an SD file if the input file had a duplicate field name with different byte lengths. (HP-UX only)

If Table data lookup. Suprtool would not load data from a table when $lookup was used in an if command and if the value did not need to be coerced to another type, Suprtool would sometimes not use the correct register location to do the compare.

Bugs Fixed In Suprtool 5.5.03

Extract Command. Suprtool would give an incorrect result when doing an Arithmetic Expression that has more than one set of brackets as in: extract amt-p=(packed-field + packed-field) – (packed-field *2) (Itanium only)

Bugs Fixed In Suprtool 5.5.02

Decimal to Ascii. Suprtool and STExport would incorrectly assume a positive sign for a packed-decimal field that had an invalid sign value, when converting from Decimal to Ascii. (Itanium only)

Bugs Fixed In Suprtool 5.5.01

Ifouroutput. Set Ifouroutput on extracts would fail at xeq time with an "Unknown if execute phase" error in the PA_RISC version, when an alignment issue would occur in some circumstances.

KSAM files. Suprtool for AMXW would fail to open a "KSAM" file in AMXW when the implementation was done via CISAM.

Fields. Suprtool for AMXW did not allocate enough space to support the same number of defined fields and items as previous versions.

Bugs Fixed In Suprtool 5.5

$edit function. The $edit function did not work well with alpha based edit masks and if the target was greater than 32 characters.
Output,data. Suprtool would write out double the calculated record size when set oracle integer was on or set ifouroutput was on, and output,data option was used and no extract commands were specified.

Bugs Fixed In Suprtool 5.4

Packed Data. Suprtool for HP-UX on Itanium would incorrectly coerce the number negative 65536 from Binary to Decimal and Decimal to Binary.

External Programs.. An external program would fail to be loaded to run when attempted to be run from inside Suprtool Itanium

Table Command. Suprtool did not properly clear the data field information from a table at the end of a task.

Extract from Table. Suprtool did not properly zero out a packed field target when an table entry was not found when extracting data from a table and the Packed field was P12 or higher.