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Subject: **Pre-Install checks for 10gR1 RDBMS (10.1.x) - AIX Platforms**

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Pre-Install checks for 10gR1 RDBMS on AIX (10.1.x)

Purpose

*Note: Oracle Support is developing a flexible and reliable method of performing health checks on Oracle products and host environment. This is a pilot implementation and we invite you to try this new method and give us your feedback. We will incorporate your experience and suggestions to improve upon this application. **If you experience difficulties or errors with this script, please do not call Oracle Support or log an iTAR for this issue. Instead, send feedback to st-automation_ww@oracle.com so that we can correct the problem.***

This rule set performs the following tests:

- [OS Certified?](#)
- [Other O_Hs in PATH?](#)
- [oraInventory perms](#)
- [/tmp adequate?](#)
- [Swap \(in Mb\)](#)
- [RAM \(in Mb\)](#)
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- [LDLIBRARYPATH unset?](#)
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Scope and Application

This rule collection is designed for an Oracle Service Engineer, or any Web Server Administrator who needs to perform Pre-Install checks for 10g RDBMS on AIX.

Instructions

The easiest way to run this set of rules is to [download](#) [Save file as validate.tar] and execute the validation engine. The download is a small "tar" file, which consists of the following:

- `validate` - Shell script that executes the engine - Unix platforms
- `validate.pl` - Actual rule engine
- `filename.txt` - Rule text file. This file will be different for each rule set

To run the rules:

1. [Click here](#) to download the file to your system.
2. Save the file as "**validate.tar**".
3. Untar the files to a local directory. i.e `tar xvf validate.tar`
4. Set your environment to the one you want to validate.
5. Execute `validate filename.txt` from the command line, as in the following examples:

```
# validate 10g_rdbms_aix.txt
```

OR

perl validate.pl 10g_rdbms_aix.txt

6. When prompted, confirm the environment.

NOTE: "Problems with not finding Perl"

Perl 5.6.1 is usually installed by default with MOST UNIX OS's. Please consult your System Administrator on where to find the Perl installation. The Perl software is usually installed in /opt/perl directory, please verify this. If it exist, do the following to set your environment:

```
export PATH=/opt/perl/bin:$PATH
export PERL5LIB=/opt/perl/lib
```

Execute the following command to verify that the Perl program is in your PATH:
which perl -----> should return /opt/perl/bin

perl -v -----> should return "This is perl, v5.6.1

If the version is correct or at least v5.x.x, try to run :

```
# validate 10g_rdbms_aix.txt
```

If it does not work, you can download Perl 5.6.1 for free from <http://www.perl.com/CPAN/ports/index.html>. Then setup your PATH and PERL5LIB environment variables to where you installed Perl.

The engine executes all rules and prints a summary page. An example of the run session is below, output from your run session will be different:

"Health Check Rule Engine" will be run in following environment:

```
ORACLE_HOME: /oracle/9.0.1
ORACLE_SID : V901
```

```
If this is not correct environment
Please set correct env parameters and rerun program
Would you like to continue [Y]es/[N]o (Default Yes) :
```

Executing Rules

```
-----
Executing Rule: sysdate           - completed successfully.
Executing Rule: ulimit           - completed successfully.
Executing Rule: free_oracle_home - completed successfully.
Executing Rule: free_shared_pool - completed successfully.
```

Tests executed at Mon Jan 20 13:07:18 2003

Test Results

```
-----
ID NAME                RESULT  CON VALUE
=====
1 sysdate              RECORD  NA  Mon Jan 20 13:07:17 EST 2003
2 ulimit               PASSED  =  unlimited
3 free_oracle_home     FAILED  B   5087768
4 free_shared_pool     PASSED  >  33531748
```

After the execution is complete you can see a detailed output and advise on the outcome in the log file. The log file will have the same name as the rules file, but with .log extension. The engine will prompt you the correct log file name.

Note: You can also run each individual rule manually. Although this is the less preferable choice, if you would like to execute the rules manually, follow the instruction below. It is important that you understand that the %##% in a particular rule represents the value of the output from a previous Test. i.e. (if %40% eq True then) in rule interpreted as if the value from the output of rule 40 is true, then further process current rule. The Rule number is the second line after Rule description and can be seen in 10g_rdbms_aix.txt.

Test: OS Certified?

This rule checks if the correct version of AIX has been installed for installing 10g RDBMS

Run the following command from the Operating System command line

```
OS=`/usr/bin/uname -s`
if /usr/bin/test /usr/bin/oslevel
then
  OSVER6CHAR=`/usr/bin/oslevel -r | /usr/bin/sed 's/-//''`
  OSVER3CHAR=`/usr/bin/oslevel -r | /usr/bin/awk '{print substr($1,1,3)}'`
  OSVER=`/usr/bin/oslevel -r`
else
  OSVER6CHAR="000000"
```

```

OSVER3CHAR="000"
OSVER="000000"
fi
case $OSVER3CHAR in
"414"|"415"|"420"|"421"|"432"|"433"|"510")
  /usr/bin/echo "$OS $OSVER is not certified with 10g RDBMS"
;;
"520"|"530")
  if test -x /usr/bin/lslpp
  then
    OSBIT=`/usr/bin/lslpp -L | /usr/bin/grep bos.64bit | /usr/bin/awk '{print $1}' | /usr/bin/sed 's/bos.//' | /usr/bin/sed 's/bit/'`
  else
    OSBIT="32"
  fi
  if /usr/bin/test /usr/bin/getconf
  then
    GETCONFHWBIT=`/usr/bin/getconf HARDWARE_BITMODE 2>>/dev/null`
    case $GETCONFHWBIT in
    "undefined")
      /usr/bin/echo "HARDWARE_BITMODE is undefined or invalid, AIX OS is not 5.2 or 5.3"
      ;;
    "64")
      HARDWARE_BITMODE=64
      ;;
    "32")
      HARDWARE_BITMODE=32
      ;;
    *)
      /usr/bin/echo "HARDWARE_BITMODE check is invalid"
    ;;
    esac
  else
    /usr/bin/echo "getconf command is not found"
  fi
  if [ $OSBIT = 64 -a $GETCONFHWBIT = 64 ]
  then
    /usr/bin/echo "Certified with 10g RDBMS"
  else
    /usr/bin/echo "$OS $OSVER is not certified with 10g RDBMS"
  fi
*)
  /usr/bin/echo "$OS OS Version not determinable"
;;
esac

```

If the result from the above command is equal to Certified with 10g RDBMS then your environment passes this test. The correct version of AIX is installed on your server.

What to do if your system fails the test:
!!SHOWSTOPPER!!

The correct version of AIX has NOT been installed on your server. Please see the installation manual and Metalink for the certified versions of AIX.

Test: Other O_Hs in PATH?

This rule checks to ensure that the PATH variable does NOT contain any references to other ORACLE_HOME based on /etc/oratab entries.

Run the following command from the Operating System command line

```

NoneFound=true
if /usr/bin/test -f /etc/oratab
then
  for FILE in /etc/oratab
  do
    for LINE in ` /usr/bin/cat $FILE | /usr/bin/grep -v '#' | /usr/bin/grep -v '^$' | /usr/bin/awk -F: '{print $2}' | /usr/bin/sort -u`
    do
      for ENVPATHS in PATH
      do
        if [ ` /usr/bin/env | /usr/bin/grep -wc $ENVPATHS | /usr/bin/grep :$ENVPATHS= | /usr/bin/wc -l` -ge 1 ]
        then
          if [ ` /usr/bin/env | /usr/bin/grep -w $ENVPATHS | /usr/bin/grep :$ENVPATHS= | /usr/bin/grep -c $LINE` -ge 1 ]
          then
            /usr/bin/echo OratabEntryInPath
            NoneFound=false
          fi
        fi
      done
    done
  done
fi
if [ $NoneFound = true ]
then
  /usr/bin/echo NoneFound
fi

```

If the result from the above command is equal to NoneFound then your environment passes this test. The PATH does not contain any of the values of ORACLE_HOME found in /etc/oratab. This is correct for installing 10g RDBMS. No action required.

What to do if your system fails the test:

The PATH contains one or more references to the values of ORACLE_HOME found in /etc/oratab. Please remove these references before installing 10g RDBMS.

Test: oraInventory perms

This rule verifies if the user who will install 10g RDBMS has sufficient privileges for the oraInventory directory.

Run the following command from the Operating System command line

```
if /usr/bin/test -f /etc/oraInst.loc
then
  ORAINVENTORYLOC=`/usr/bin/cat /etc/oraInst.loc | /usr/bin/grep 'inventory_loc' | /usr/bin/grep -v "#" | /usr/bin/awk -F= '{print $2}'`
  if /usr/bin/test -w "$ORAINVENTORYLOC"
  then
    if /usr/bin/test -r "$ORAINVENTORYLOC"
    then
      /usr/bin/echo oraInventoryOK
    else
      /usr/bin/echo oraInventoryNotOK
    fi
  else
    /usr/bin/echo oraInventoryNotOK
  fi
else
  /usr/bin/echo oraInventoryNotFound
fi
```

If the result from the above command is =~ oraInventoryOK|oraInventoryNotFound then your environment passes this test. The user who is currently logged in either has sufficient privileges for the oraInventory directory to install 10g RDBMS or this is the first Oracle product that will be installed on the system in which case the oraInventory directory will be created. No action required.

What to do if your system fails the test:

There is a problem for the user who currently is logged in to install 10g RDBMS in accessing (writing) the oraInventory. Please verify that the user can write to the directory specified in /etc/oraInst.loc.

Return value Action required

```
-----
oraInventoryNotOK
  Make sure the install user has write permission
      to $ORAINVLOC

oraInventoryNotFound The file /etc/oraInst.loc
was not found. This
      is not a problem if this is the first install of
      oracle on the server.
```

Test: /tmp adequate?

This rule checks if the space available during the installation of 10g RDBMS is sufficient for storing temporary files.

Run the following command from the Operating System command line

```
tmpOK=false
vartmpOK=false
if /usr/bin/test $TEMP
then
  TEMPLOC=$TEMP
else
  if /usr/bin/test $TMP
  then
    TEMPLOC=$TMP
  else
    TEMPLOC=/tmp
  fi
fi
if /usr/bin/test -d $TEMPLOC
then
  TMPFREE=`/usr/bin/df -k $TEMPLOC | /usr/bin/awk '{print $3}' | /usr/bin/sed '1d'`
  TMPFREE=`/usr/bin/expr $TMPFREE / 1024`
  if [ $TMPFREE -lt 400 ]
  then
    /usr/bin/echo TempFreeIsLow
  else
```

```

    if /usr/bin/test -w "$TEMPLOC"
    then
        tmpOK=true
    else
        /usr/bin/echo TempNoWrite
    fi
fi
else
    /usr/bin/echo invalidDIR
fi
if /usr/bin/test $TMPDIR
then
    TMPDIRLOC=$TMPDIR
else
    TMPDIRLOC=/var/tmp
fi
if /usr/bin/test -d $TMPDIRLOC
then
    TMPDIRSIZE=`/usr/bin/df -k "$TMPDIRLOC" | /usr/bin/awk '{print $3}' | /usr/bin/sed '1d`
    TMPDIRSIZE=`/usr/bin/expr $TMPDIRSIZE / 1024`
    if [ $TMPDIRSIZE -lt 200 ]
    then
        /usr/bin/echo TMPDIRTooSmall
    else
        if /usr/bin/test -w "$TMPDIRLOC"
        then
            vartmpOK=true
        else
            /usr/bin/echo TMPDIRNoWrite
        fi
    fi
else
    /usr/bin/echo invalidDIR
fi
if [ $tmpOK = true -a $vartmpOK = true ]
then
    /usr/bin/echo TempSpaceOK
fi

```

If the result from the above command is equal to TempSpaceOK then your environment passes this test. There is sufficient temporary disk space available for installing 10g RDBMS. No action required.

What to do if your system fails the test:

The temp space is not correctly configured.

ReturnValue
Action

```

-----
TempFreeIsLow    ALERT- Your temp space ($TEMP
or $TMP or /tmp) has

                less than the required 400 Mb free space. Please

                make sure your temp
space has at least 400 Mb of

                free space

TempNoWrite      ALERT- your temp space ($TEMP or $TMP or /tmp) does

                not have write permissions for this user

TMPDIRTooSmall  ALERT- $TMPDIR or /tmp has less than the

                required 200 Mb. Please point the TMPDIR

                environmental variable to a mount point with at

                least 200 Mb of free space

TMPDIRNoWrite   ALERT- $TMPDIR is set in the environment;

                however, $TMPDIRLOC

does not have write permissions

                for this user

invalidDIR      ALERT- $TEMP or $TMPDIR are set in the environment

                with invalid directory

```

FYI: The runInstaller (OUI) uses/checks for temporary space by checking first for the TEMP environmental variable, then the TMP environmental variable and lastly the actual '/tmp' mount point

FYI: The operating system also needs additional space by creating files under /tmp or if it finds TMPDIR environmental variable it will use that.

Test: Swap (in Mb)

This rule shows the amount of free swap space.

Run the following command from the Operating System command line and record the result:

```
if test -x /usr/sbin/lpsps
then
  SWAP=`/usr/sbin/lpsps -s | /usr/bin/awk '{print $1}' | /usr/bin/sed '1d' | /usr/bin/sed 's/MB/ /'`
  if /usr/bin/test -z "$SWAP"
  then
    /usr/bin/echo SWAPNotSet
  else
    /usr/bin/echo $SWAP
  fi
else
  /usr/bin/echo "ALERT- SWAP space cannot be determined"
fi
```

Test: RAM (in Mb)

This rule verifies if your system has sufficient physical memory installed to install Oracle 10g RDBMS

Run the following command from the Operating System command line

```
MEM=`/usr/sbin/lstat -HE -l sys0 -a realmem | /usr/bin/sed '1d' | /usr/bin/awk '{print $2}'`
MEM=`/usr/bin/expr $MEM / 1024`
/usr/bin/echo $MEM
```

If the result from the above command is greater than 511 then your environment passes this test. You have sufficient physical memory (Megabytes) installed to install Oracle 10g RDBMS. No action required.

What to do if your system fails the test:

ALERT

The amount of physical memory (Megabytes) in your system is not sufficient to install Oracle 10g RDBMS.

Test: SwapToRAM OK?

This rule verifies if the total amount of swap space is the recommended amount as specified in the installation manual of 10g RDBMS

Run the following command from the Operating System command line

```
if /usr/bin/test %130%
then
  if [ %130% -lt 1000 ]
  then
    /usr/bin/echo InsufficientSwap
  else
    if /usr/bin/test %140%
    then
      if [ %130% -lt %140% ]
      then
        /usr/bin/echo SwapLessThanRAM
      else
        /usr/bin/echo SwapToRAMOK
      fi
    else
      /usr/bin/echo MemNotDetermined
    fi
  fi
else
  /usr/bin/echo SwapNotDetermined
fi
```

If the result from the above command is equal to SwapToRAMOK then your environment passes this test. The amount of swap space meets the minimum requirement for installing 10g RDBMS. No action required.

What to do if your system fails the test:

The amount of swap is NOT the amount recommended in the 10g RDBMS installation manual. Please verify the requirements and adjust your system accordingly.

ReturnValue	Action
-------------	--------

```
-----
SwapNotDetermined
ALERT- A Swap to Memory ratio cannot be
determined because swap has not been setup or
```

```

        you do not have execute permission to
                determine swap
SwapLessThanRAM      ALERT- Swap
space is less than the physical
                memory. Set swap space at least the same
                size
as the physical memory
InsufficientSwap     ALERT- 10g RDBMS requires at least 1 Gb of swap
                space
MemNotDetermined     ALERT- A Swap to Memory ratio cannot be
                determined because you do not have execute
                permission to determine the physical memory

```

Test: Disk Space OK?

This rule verifies if the amount of disk space in ORACLE_HOME is sufficient for installing 10g RDBMS

Run the following command from the Operating System command line

```

if /usr/bin/test %40%
then
  if /usr/bin/test -d %40%
  then
    OHDISKSPACEKB=`/usr/bin/df -k %40% | /usr/bin/awk '{print $3}' | /usr/bin/sed '1d'`
    OHDISKSPACE=`/usr/bin/expr $OHDISKSPACEKB / 1024`
    DBANDSW=3700
    DBORSW=2500
    CLIENTONLY=1500
    if [ $OHDISKSPACE -ge $DBANDSW ]
    then
      /usr/bin/echo DiskSpaceOK
    elif [ $OHDISKSPACE -ge $DBORSW ]
    then
      /usr/bin/echo OnlySpaceForOne
    elif [ $OHDISKSPACE -ge $CLIENTONLY ]
    then
      /usr/bin/echo ClientOnly
    else
      /usr/bin/echo NoSpace
    fi
  else
    /usr/bin/echo OHNotValid
  fi
else
  /usr/bin/echo OHNotSpecified
fi

```

If the result from the above command is `≈ DiskSpaceOKIOHNotSpecified` then your environment passes this test. ORACLE_HOME has sufficient disk space to install 10g software, create a database, install Companionion CD products. No action required.

What to do if your system fails the test:

ORACLE_HOME has insufficient disk space for installing any type of 10g RDBMS architectures. Please verify the specifications.

ReturnValue
Action

```

-----
OnlySpaceForOne      %40% has sufficient
free disk space to
                    install the 10g software but not enough to create
                    a database.

ClientOnly           %40% only has sufficient free disk space to
                    do a client installation.

NoSpace              %40% has insufficient free disk space
                    to do a 10g install.

OHNotFound           Disk space calculations cannot be performed
                    since $ORACLE_HOME is not a valid directory

```

Test: AIXTHREAD_SCOPE=S?

This rule checks for AIXTHREAD_SCOPE set to S in the environment.

Run the following command from the Operating System command line

```
if /usr/bin/test $AIXTHREAD_SCOPE
then
  if [ $AIXTHREAD_SCOPE = "S" ]
  then
    /usr/bin/echo AIXTHREAD_SCOPEOK
  else
    /usr/bin/echo AIXTHREAD_SCOPEBad
  fi
else
  /usr/bin/echo AIXTHREADNotSet
fi
```

If the result from the above command is equal to AIXTHREAD_SCOPEOK then your environment passes this test. AIXTHREAD_SCOPE environmental variable setting is correct. No action required.

What to do if your system fails the test:

The AIXTHREAD_SCOPE environmental variable is not correct.

ReturnValue
Action

AIXTHREADNotSet AIXTHREAD_SCOPE should be
set to S in the environment

AIXTHREAD_SCOPEBad AIXTHREAD_SCOPE is set but not set to S, please reset the
value to S in the environment

Test: LINK_CNTRL is unset?

This rule checks to ensure that LINK_CNTRL is not set in the environment.

Run the following command from the Operating System command line

```
if /usr/bin/test $LINK_CNTRL
then
  /usr/bin/echo LINK_CNTRLBad
else
  /usr/bin/echo LINK_CNTRLunset
fi
```

If the result from the above command is equal to LINK_CNTRLunset then your environment passes this test. LINK_CNTRL environmental variable setting is not set. This setting is not needed for AIX 5L. No action required.

What to do if your system fails the test:

LINK_CNTRL environmental variable is set in your environment. Please unset it.

Test: Got ld,nm,ar,make?

This rule verifies if the assembly tools needed for the installation of 10g RDBMS exist

Run the following command from the Operating System command line

```
ARFOUND=false
LDFOUND=false
NMFOUND=false
MAKEFOUND=false
arvalue=`/usr/bin/which ar`
if /usr/bin/test -h $arvalue
then
  arvalue=`/usr/bin/ls -l $arvalue | /usr/bin/awk '{print $11}' | /usr/bin/awk -F* '{print $1}'`
fi
if [ "$arvalue" != "/usr/ccs/bin/ar" ]
then
  /usr/bin/echo ArFoundInPath
else
  ARFOUND=true
fi
ldvalue=`/usr/bin/which ld`
if /usr/bin/test -h $ldvalue
then
  ldvalue=`/usr/bin/ls -l $ldvalue | /usr/bin/awk '{print $11}' | /usr/bin/awk -F* '{print $1}'`
fi
```

```

if [ "$ldvalue" != "/usr/ccs/bin/ld" ]
then
  /usr/bin/echo LdFoundInPath
else
  LDFOUND=true
fi
nmvalue=`/usr/bin/which nm`
if /usr/bin/test -h $nmvalue
then
  nmvalue=`/usr/bin/ls -l $nmvalue | /usr/bin/awk '{print $11}' | /usr/bin/awk -F* '{print $1}'`
fi
if [ "$nmvalue" != "/usr/ccs/bin/nm" ]
then
  /usr/bin/echo NmFoundInPath
else
  NMFOUND=true
fi
makevalue=`/usr/bin/which make`
if /usr/bin/test -h $makevalue
then
  makevalue=`/usr/bin/ls -l $makevalue | /usr/bin/awk '{print $11}' | /usr/bin/awk -F* '{print $1}'`
fi
if [ "$makevalue" != "/usr/ccs/bin/make" ]
then
  /usr/bin/echo MakeFoundInPath
else
  MAKEFOUND=true
fi
if [ $ARFOUND = true -a $LDFOUND = true -a $NMFOUND=true -a $MAKEFOUND = true ]
then
  /usr/bin/echo ld_nm_ar_make_found
fi

```

If the result from the above command is equal to ld_nm_ar_make_found then your environment passes this test. All Assembly tools needed for the installation of 10g RDBMS were found. No action required.

What to do if your system fails the test:

Some of the Assembly tools needed for the installation of 10g RDBMS were not found. Please check your installation.

ReturnValue	Action

ArFoundInPath	ar is found in PATH but not in /usr/ccs/bin or symbolically linked to /usr/ccs/bin as required
LdFoundInPath	ld is found in PATH but not in /usr/ccs/bin or symbolically linked to /usr/ccs/bin as required
NmFoundInPath	nm is found in PATH but not in /usr/ccs/bin or symbolically linked to /usr/ccs/bin as required
MakeFoundInPath	make is found in PATH but not in /usr/ccs/bin or symbolically linked to /usr/ccs/bin as required

Test: ulimits OK?

This rule verifies if the ulimit settings are adequate for installing 10g RDBMS

Run the following command from the Operating System command line

```

TIMEOK=false
TIME=`/usr/bin/ulimit -t`
if /usr/bin/test -z "$TIME"
then
  /usr/bin/echo TimeNotDef
elif [ $TIME != "unlimited" ]
then
  /usr/bin/echo TimeTooSmall
else
  TIMEOK=true
fi
FILEOK=false
FILE=`/usr/bin/ulimit -f`
if /usr/bin/test -z "$FILE"
then
  /usr/bin/echo FileNotDefined
elif [ $FILE != "unlimited" ]
then
  /usr/bin/echo FileTooSmall
else

```


If the result from the above command is equal to UmaskOK then your environment passes this test. The umask has been set correctly for installing 10g RDBMS. No action required.

What to do if your system fails the test:

The umask has not been set correctly. Please set the umask to 022 before installing 10g RDBMS.

Test: LD_LIBRARY_PATH unset?

This rule checks to ensure that LD_LIBRARY_PATH environment variable is unset.

Run the following command from the Operating System command line

```
if /usr/bin/test $LD_LIBRARY_PATH
then
  /usr/bin/echo IsSet
else
  /usr/bin/echo UnSet
fi
```

If the result from the above command is equal to UnSet then your environment passes this test. LD_LIBRARY_PATH environment variable is unset. No action required.

What to do if your system fails the test:

LD_LIBRARY_PATH is set in your environment and needs to be unset prior to attempting a 10g RDBMS installation.

Test: LIBPATH unset?

This rule checks if LIBPATH environment variable is unset.

Run the following command from the Operating System command line

```
if /usr/bin/test $LIBPATH
then
  /usr/bin/echo IsSet
else
  /usr/bin/echo UnSet
fi
```

If the result from the above command is equal to UnSet then your environment passes this test. LIBPATH environment variable is unset. No action required.

What to do if your system fails the test:

LIBPATH is set in your environment and needs to be unset prior to attempting a 10g RDBMS installation.
