

ODBC for Unix

Migration and Interoperability from MPE to HPUX LINUX and Solaris

Minisoft's ODBC driver for HP-UX, Linux and Solaris enables these platforms to directly access data from TurboImage databases, KSAM and MPE files residing on an HPe3000. This opens up many new capabilities for migration and interoperability:

Access HPe3000 data as if it were part of the Oracle database

For example, using Oracle's Heterogeneous Services using Generic Connectivity, Oracle users and applications can directly access HPe3000 data as if it were part of an Oracle database. Simple commands to Oracle can become powerful migration operations. A whole dataset can be migrated to the Oracle database with one statement such as this:

```
CREATE TABLE <new Oracle table> AS SELECT * FROM <e3000 dataset>
```

Also, since the HPe3000 data appears as tables in the Oracle database, Oracle applications can use the data directly. This provides a whole new slate of development tools for web and e-business applications. Later when the data is migrated to the Oracle system, the applications will not have to be changed.

Web application interoperability between the HPe3000 and UNIX systems.

Having Minisoft's ODBC/32 driver available on HP-UX and Linux also enables web applications written for application servers such as WebSphere, Sun ONE Active Server Pages (formerly Chili!Soft ASP), iPlanet, Apache JServ, and others to interoperate with HPe3000 applications by directly accessing and modifying HP e3000 data. User applications, such as StarOffice can also use Minisoft's connectivity on HP-UX and Linux to access HP e3000 data.

Installation

HP/UX

Requirements

The following is required on an HP/UX system:

1. unixODBC 2.2.3 or later. This can be obtained from the following site:

<http://www.unixodbc.org>

2. /usr/local/lib/libstdc++.sl.5.0

This is in the gcc 3.2 depot file which can be obtained from one of the following sites:

<<http://hpux.connect.org.uk>>

or

<gcc-3.2-sd-11.00.depot.gz>

<bison-1.35-sd-11.00.depot.gz>

<flex-2.5.4a-sd-11.00.depot.gz>

<make-3.79.1-sd-11.00.depot.gz>

Installing the Minisoft ODBC Driver

1. From your host machine login as Administrator (root) and create the following directory under /opt:

```
mkdir minisoft
```

2. Change the attributes of the directory:

```
chmod 755 minisoft
```

3. Once the library has been created place all Minisoft files in the /opt/minisoft directory.
4. Next, append the lines from "drvinst.ini" into the *odbcinst.ini* file for your system.
5. Use "config3kodbc.exe" to set the information from *mcard.ini* into your *odbc.ini* file. The database and password information for your HP3000 are encoded into the *odbc.ini* file and cannot be easily added with a text editor. The *config3kodbc.exe* application reads an ini file and encodes the information into the *odbc.ini* file:

```
config3kodbc.exe -i -u -f mscard.ini
```

Installs mscard as a User DSN

```
config3kodbc.exe -i -s -f mscard.ini
```

Installs mscard as a System DSN

Licensing ODBC

license.exe

Please report the value shown after running the license.exe program utility so that a License Number can be generated for your system.

This is an HP-UX (11) executable. Place it in the /opt/minisoft directory.

When run, it should display the System ID and System Name:

```
# /opt/minisoft/license.exe
System ID = [541750568]
System Name = [HP-UX B.11.00 9000/800]
Use one of the following parameters:
1 - View license information
2 - License a product
5 - Create license file
6 - View license for a product
#
```

Solaris

Requirements

You will need the following on your Solaris system:

1. unixODBC 2.2.3 or later. This can be obtained from the following site:

<http://www.unixodbc.org>

2. /usr/local/lib/libstdc++.so.2.10.0

ODBC Driver

1. From your host machine login as Administrator (root) and create the following directory under /opt:

```
mkdir minisoft
```

2. Change the attributes of the directory:

```
chmod 755 minisoft
```

3. Once the library has been created place all Minisoft files in the /opt/minisoft directory.
4. Next, append the lines from "drvinst.ini" into the *odbcinst.ini* file for your system.
5. Use "config3kodbc.exe" to set the information from *mscard.ini* into your *odbc.ini* file. The database and password information for your HPe3000 are encoded into the *odbc.ini* file and cannot be easily added with a text editor. The config3kodbc.exe application reads an ini file and encodes the information into the *odbc.ini* file.

```
config3kodbc.exe -i -u -f mscard.ini
```

Installs mscard as a User DSN

```
config3kodbc.exe -i -s -f mscard.ini
```

Installs mscard as a System DSN

ODBC License.exe

License.exe

Please report the value shown from after running the License.exe utility so a License Number can be generated for your system.

This is a Solaris executable. Place it in the directory "/opt/minisoft". When ran, it should display the System ID and System Name:

```
# /opt/minisoft/license.exe
System ID = [541750568]
System Name = [HP-UX B.11.00 9000/800]
Use one of the following parameters:
1 - View license information
2 - License a product
5 - Create license file
6 - View license for a product
#
```

Linux

Requirements

You will need the following on your Linux system:

1. unixODBC 2.2.3 or later. This can be found at the following website:

<http://www.unixodbc.org>

2. /usr/local/lib/libstdc++.so.5 (Available with gcc 3.2)

ODBC Driver

1. From your host machine login as Administrator (root) and create the following directory under /opt:

```
mkdir minisoft
```

2. Change the attributes of the directory:

```
chmod 755 minisoft
```

3. Once the library has been created place all Minisoft files in the /opt/minisoft directory.
4. Next, append the lines from "drvinst.ini" into the odbcinst.ini file for your system.
5. Use "config3kodbc.exe" to set the information from *mscard.ini* into your *odbc.ini* file. The database and password information for your HPe3000 are encoded into the odbc.ini file and cannot be easily added with a text editor. The config3kodbc.exe application reads an ini file and encodes the information into the odbc.ini file.

```
config3kodbc.exe -i -u -f mscard.ini
```

Installs mscard as a User DSN

```
config3kodbc.exe -i -s -f mscard.ini
```

Installs mscard as a System DSN

ODBC Licensing

Please report the value shown from after running the License.exe utility so a License Number can be generated for your system.

This is a Linux executable. Place it in the "/opt/minisoft" directory. When run, it should display the System ID and System Name:

```
# /opt/minisoft/license.exe
System ID = [3046425382]
System Name = [Linux 2.4.18-17.8.0 i686]
Use one of the following parameters:
1 - View license information
2 - License a product
5 - Create license file
6 - View license for a product
#
```

Server Installation on HP-UX

Requirements

1. The following will be needed:

`/usr/local/lib/libstdc++.sl.5.0`

2. Eloquence B.07.00 (please install Patch PE70-0304090 or later)

This can be found at the following website:

<http://www.hp-eloquence.com/support/B07/patch-B0700.html>

Server

1. From your host machine login as Administrator (root) and create the following directory under `/opt`:

```
mkdir minisoft
```

2. Change the attributes of the directory:

```
chmod 755 minisoft
```

3. Once the library has been created place all Minisoft files in the `/opt/minisoft` directory.

Note: Make sure the minisoft directory is readable and executable from public.

4. Next, create a symbolic link to your system specific Eloquence library. For example:

```
ln -s /opt/eloquence6/lib/pa11_32/libimage3k.sl  
/opt/eloquence/lib/libimage3k.sl
```

or

```
ln -s /opt/eloquence6/lib/pa20_32/libimage3k.sl  
/opt/eloquence/lib/libimage3k.sl
```

5. Append the following to your `/etc/inetd.conf` file:

```
#  
# odbcserver.exe  
#  
odbcserver stream tcp nowait root /opt/minisoft/odbcserver.exe odbcserver.exe  
S
```

6. Append the following to your /etc/services file:

```
#
# Minisoft odbcsrvr.exe
#
odbcsvr 30006/tcp
```

7. Append the following to your /etc/pam.conf file:

```
#
# PAM configuration
#
odbcsvr auth required /usr/lib/security/libpam_unix.1
odbcsvr account optional /usr/lib/security/libpam_unix.1
odbcsvr password required /usr/lib/security/libpam_unix.1
#
```

8. Report the System ID and System Name (see license.exe below) to your Minisoft sales office. Follow the directions returned to license the product.

9. Restart inetd using the command:

```
#inetd -c
```

ODBC Licensing

Please report the value shown from after running the License.exe utility so that a License Number can be generated for your system.

This is a HP-UX (11) executable. Place it in the "/opt/minisoft" directory. When ran, it should display the System ID and System Name:

```
# /opt/minisoft/license.exe
System ID = [541750568]
System Name = [HP-UX B.11.00 9000/800]
Use one of the following parameters:
1 - View license information
2 - License a product
5 - Create license file
6 - View license for a product
#
```

ODBC for Oracle Heterogeneous Services

ODBC/32 driver version 2.2.5.3 and later is compatible with Oracle Heterogeneous Services, Generic Connectivity for ODBC.

Oracle's Generic connectivity is intended for data integration solutions requiring the capability to connect from Oracle to non-Oracle database systems. Generic Connectivity is part of Oracle Heterogeneous Services.

Oracle versions

- 8i
- 9i

Operating Systems

- HP-UX (HPPA)
- Solaris (Sparc)
- Windows (i386)
- Linux (i386) (While the Minisoft driver is available, Generic Connectivity is not supported in all releases of Oracle for Linux.)

With the appropriate MPE and Image security, you can select, update, insert and delete records from your Oracle applications. Also read and write Image, KSAM and MPE files.

Using Oracle Generic Connectivity

This is a step-by-step guide for setting up and troubleshooting Generic Connectivity using ODBC, of Oracle 8i:

1. With the OUI (Oracle Universal Installer) install Generic Connectivity using ODBC.

This product is part of the server installation because a listener is needed. A directory called ORACLE_HOME/hs is then created.

2. The Generic Connectivity utility needs data dictionary tables in the Oracle database.

To check for their existence, run a query on i.e. SYS.HS_FDS_CLASS. If it fails, run the caths.sql script located in ORACLE_HOME/RDBMS/ADMIN as user sys or internal.

3. Install and test the MiniSoft ODBC/32 Driver.
4. Next, configure tnsnames.ora. This file is in ORACLE_HOME/network/admin.

Add the following lines to this file:

```
hsodbc =
(DESCRIPTION=
(AADDRESS=(PROTOCOL=tcp)
(HOST=<HOSTNAME>)
(PORT=1521))
(CONNECT_DATA=(SID=hsodbc))
(HS=)
)
```

Note: A sample file is located in ORACLE_HOME/hs/admin.

5. Configuring listener.ora this file is in ORACLE_HOME/network/admin.

Add the following line to the SID_List of the listener.ora and restart the listener afterwards.
(After the restart a service handler for hsodbc should exist).

```
(SID_DESC=
(SID_NAME=hsodbc)
(ORACLE_HOME=/u01/product) |<- adjust Oracle_Home directory
(PROGRAM=hsodbc)
)
```

Note: A sample file is located in ORACLE_HOME/hs/admin.

6. Adjust the configuration file of the gateway. It is located in ORACLE_HOME\HS\ADMIN.

The name depends on the SID you use for the Heterogeneous Service. In our sample the listener SID is hsodbc and so the configuration file is inithsodbc.ora.

HS init parameters:

```
HS_FDS_CONNECT_INFO = mstest |<- ODBC Data Source Name
HS_FDS_TRACE_LEVEL = 0 |<- trace levels from 0 to 4 (4 is maximum)
HS_FDS_TRACE_FILE_NAME = |<- Name of the trace file.
HS_FDS_SHAREABLE_NAME = |<- /opt/minisoft/lib3kodbcs.so
ODBC_INI = |<- /usr/local/etc/odbc.ini
```

7. Testing the connectivity:

- create a database link:

```
create database link hsodbc using 'hsodbc';
```

- select * from emp@hsodbc;

Troubleshooting COMMON ERRORS and SOLUTIONS

- ORA-28509: unable to establish a connection to non-Oracle system
- ORA-02063: preceding line from HS
- ✓ Make sure the HOST parameter in the tnsnames.ora file is correct.
- ✓ Make sure the PORT number is correct.
- ✓ Make sure the SID name is correct in both the TNSNAMES.ORA and
- ORA-28500: connection from ORACLE to a non-Oracle system returned this message:

[Transparent gateway for ODBC][H001] The environment variable
<HS_FDS_CONNECT_INFO> is not set.
ORA-02063: preceding 2 lines from HS

- ✓ Set HS_FDS_CONNECT_INFO in the hs{sid}init.ora file to the data source name.
Example: HS_FDS_CONNECT_INFO = <ODBC DataSource Name>
- ✓ Make sure the hs{sid}init.ora file exists in the ORACLE_HOME/hs/admin directory and has the same name as the SID in the LISTENER.ORA.
Example: If SID=hsodbc in the listener.ora file, then the hs{sid}init.ora file would be named ORACLE_HOME/hs/admin/inithsodbc.ora