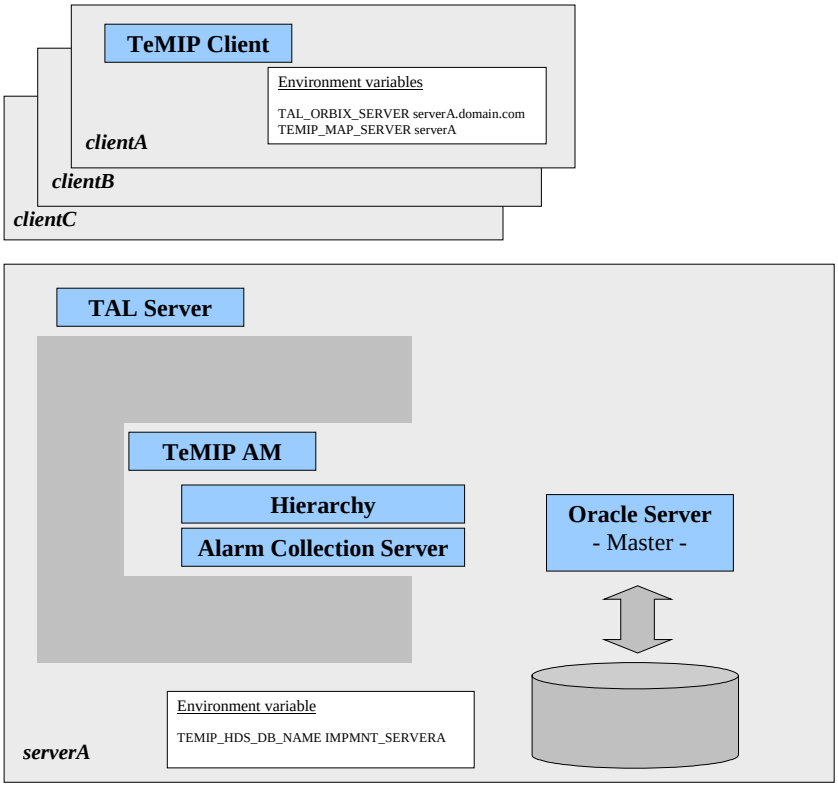
Compaq TeMIP Map Applications Server for Tru64 UNIX

Installation and Configuration Guide
(For Oracle V8.0.5)

1 Supported Configurations

1.1 Simple configuration

This is a simple configuration where a single TeMIP director cohabits with the Oracle Server.

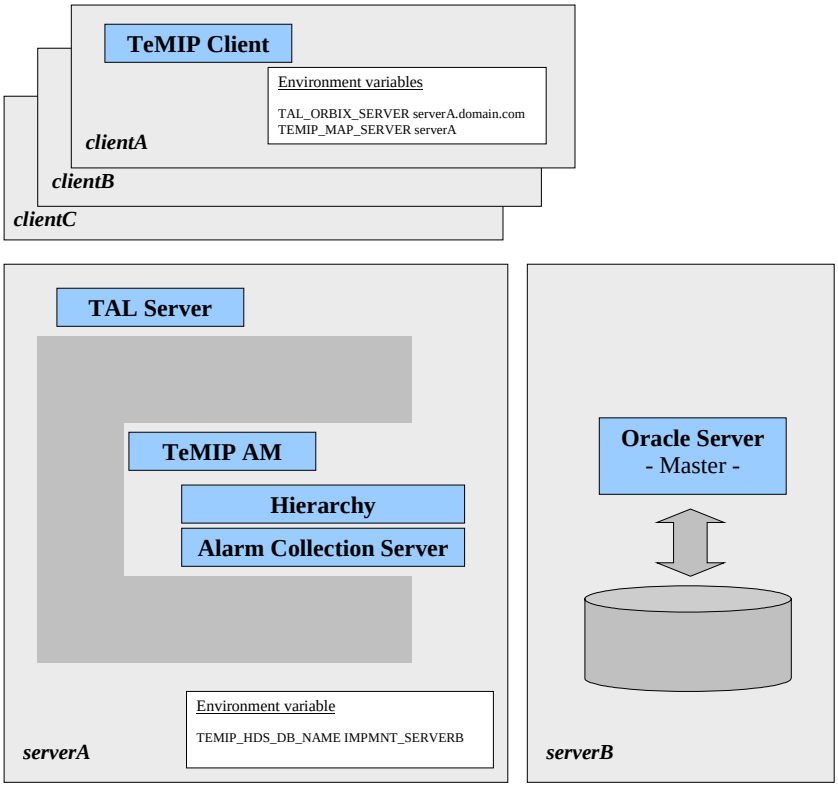

TeMIP Client
Environment variables
TAL_ORBIX_SERVER serverA.domain.com
TEMIP_MAP_SERVER serverA
clientA
clientB
clientC
TAL Server
TeMIP AM
Hierarchy
Alarm Collection Server
Oracle Server
- Master -
Environment variable
TEMIP_HDS_DB_NAME IMPMNT_SERVERA
serverA

1.2 Distributed configuration – No snapshot

1.2.1 Oracle Server – TeMIP Director

This configuration carries out load balancing between the TeMIP Director and a machine dedicated to host the Oracle Server.

The TeMIP Director will host the TeMIP Map Servers and the TAL Server.

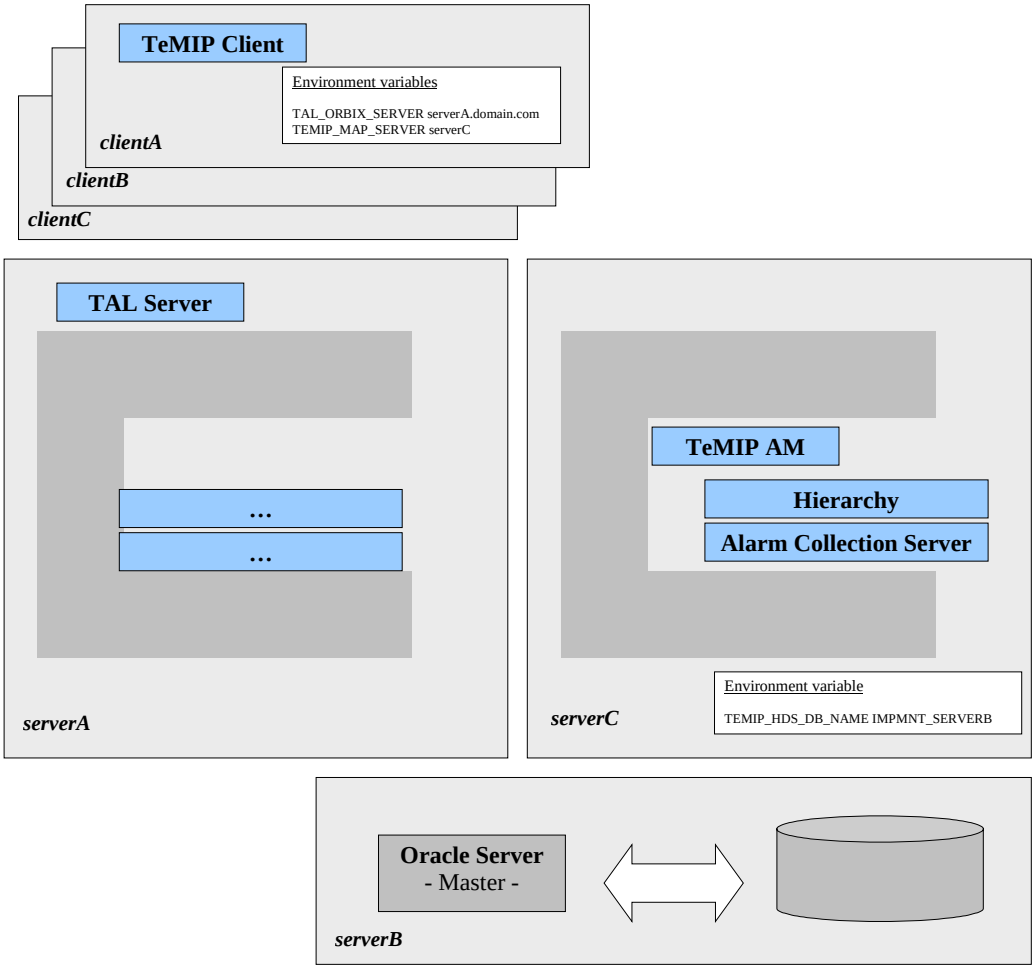


The Oracle Server can be also a TeMIP Director.

1.2.2 Oracle Server – Two TeMIP directors

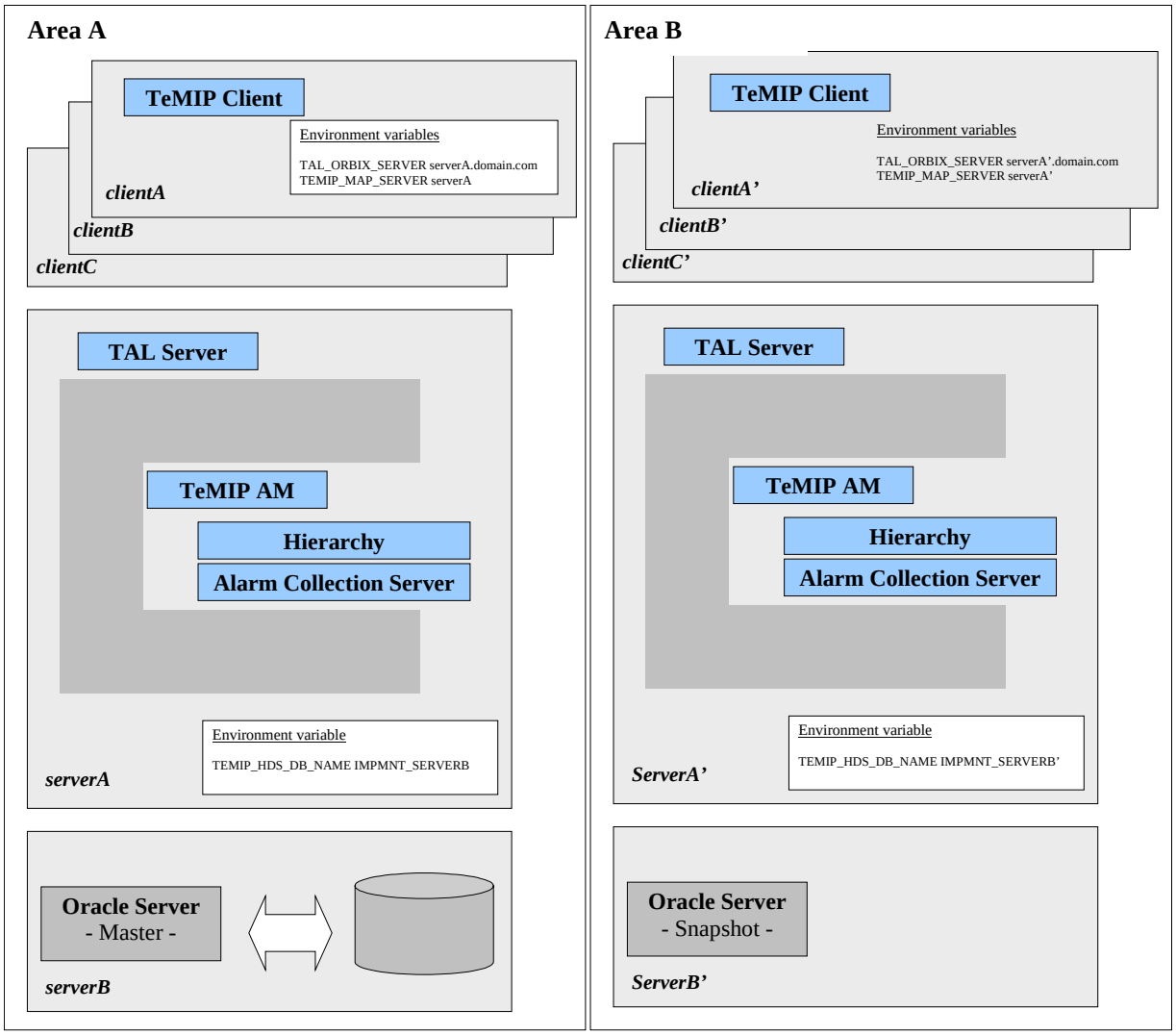
This configuration carries out load balancing between two TeMIP directors and a third machine dedicated to host the Oracle Server.

The first TeMIP Director will host the TAL Server.
The second one will host TeMIP Map Servers.



1.3 Distributed configuration – One or more snapshots

This configuration can be used in a geographical distribution of TeMIP Servers. A **distant** TeMIP Server that does mostly read access through the Map Viewer should be connected to a snapshot Server.



2 Installing the Oracle Server

This procedure is not a reference but should help you to install and configure an Oracle Server on a Compaq Tru64 UNIX system.

2.1 Installing an Oracle Server

2.1.1 Preparing the system for Oracle installation

2.1.1.1 Create software mount point

```
mkdir -p /usr/ORACLE/ORACLE8/u01/product/8.0
setenv ORACLE_BASE /usr/ORACLE/ORACLE8/u01
ln -s /usr/ORACLE/ORACLE8/u01/product/8.0 /usr/kits/oracle
```

2.1.1.2 Create database mount point

```
mkdir -p /usr/ORACLE/ORACLE8/u02
mkdir -p /usr/ORACLE/ORACLE8/u03
mkdir -p /usr/ORACLE/ORACLE8/u04
```

2.1.1.3 Add dba group in /etc/group

```
dba:*:26:oracle,temip
```

2.1.1.4 Add user oracle in /etc/passwd

```
oracle::6671:15:Oracle Account:/usr/users/oracle:/bin/csh
```

2.1.1.5 Setting environment variables

If you use an oracle user already defined, every time you need to log to the Oracle Server set the environment variables you need:

```
setenv ORACLE_SID o8ra
setenv ORACLE_BASE /usr/ORACLE/ORACLE8/u01/
setenv ORACLE_HOME /usr/kits/oracle
setenv ORACLE_TERM vt100
setenv TMPDIR /tmp
```

```
Where the ORACLE_SID variable is the variable defining the Oracle
Server Instance. Example: use o8ra for oracle 8 on ramses host
```

Else

Set the following environment variables in the oracle**.login** file:

```
setenv ORACLE_SID o8ra
setenv ORACLE_HOME /usr/kits/oracle
```

```
setenv ORACLE_TERM vt100
```

2.1.2 Starting the installer

2.1.2.1 Mount the local CD-ROM and create ORATAB file

If the CD-ROM is on the local machine:

```
su -
mkdir /cdrom
mount -r /dev/rzNc /cdrom #where N is the device number .ex : 4

setenv ORACLE_OWNER oracle
/cdrom/orainst/oratab.sh
exit
```

Else, from a remote mount point (machine xxx.yyy.com):

```
su - root
mkdir /cdrom
mount -r xxx.yyy.com:/cdrom /cdrom

setenv ORACLE_OWNER oracle
/cdrom/orainst/oratab.sh
exit
```

2.1.2.2 Set the environment variables as Oracle user

```
su - oracle
setenv ORACLE_SID o8ra
setenv TMPDIR /tmp
setenv DISPLAY YourDisplay:0
exit
```

2.1.3 Running the graphic Installer

2.1.3.1 Run the graphic installer

Then, launch the text mode installer:

```
su - oracle
/cdrom/orainst/orainst
```

- Default Install

- Install, Upgrade or De-Install
- Install new product - Create DB Objects
- Set the real paths for ORACLE_BASE and ORACLE_HOME
- **ORACLE_BASE** /usr/ORACLE/ORACLE8/u01
- **ORACLE_HOME** /usr/ORACLE/ORACLE8/u01/product/8.0
- For tmp directory select /tmp
- Yes to relink

The 3 database mount points are:
- /usr/ORACLE/ORACLE8/u02
- /usr/ORACLE/ORACLE8/u03
- /usr/ORACLE/ORACLE8/u04

```
exit
```

Install the subsets you need:

Required subsets are:

```
- client software 8.0.5
- net8 8.0.5
      - TCP/IP protocol adapter 8 ...
- Oracle Unix Installer
- Oracle8 Enterprise (RDBMS)
- PL/SQL 8.0.5.0.0
- Precompilers
      - Pro*C/C++
- SQL*PLUS
```

2.1.3.2 Configure

```
su - root
/usr/ORACLE/ORACLE8/u01/product/8.0/orainst/root.sh
exit
```

2.2 Installing mandatory patches

Install the Oracle patch PATCH_80521.

If you encounter problems launching the Java GUI, you can launch the text mode installer:

```
su - oracle
/cdrom/orainst/orainst

... Choose Customized installation.

exit
```

Note: This patch contains 2 subsets. Install the Precompiler patch only if you already have the Precompilers subset installed. (Otherwise the patch installation fails.)

2.2.1.1 Unmount the CD-ROM

```
su - root
umount /cdrom
exit
```

2.3 Tuning and Sizing information

3 Installing the Map Application Servers

The kit MAP-T410 is composed of 5 subsets:

- TeMIP Access Module (MAPTEAX410)
- TeMIP MAP Application Oracle scripts (MAPORAX410)
- TeMIP MAP Application Server HTML Documentation (MAPDOCX410)
- TeMIP MAP Application Server Modules ACS and HDS (MAPSRVX410)
- TeMIP MAP Application Server Base (MAPBASEX410) – Mandatory subset

The MAPTEAX410 subset is a prerequisite for the subset MAPSRVX410.
The MAPBASEX410 is a prerequisite for all other subsets.

The installation will be done under: */usr/mcc/map/*

The directories created are:

bin	The executables, for migration and other utilities or scripts like: temip_map_setup and temip_map_database_setup
contrib	Perl 5.6.0 tar file
install	.links
lib	.so files
mmexe	Management Module executables
orascripts	Sql scripts
config	Catalog and message files, SL-GMS color definition file
include	Include files (.h generated from MSL, TAL include files)
ivp	IVPs directory
manp	Manpages for utilities
msl	MSL of the servers

4 Configuring the Oracle Servers

4.1 Configuring a master server

4.1.1 Procedure

This procedure needs the **TeMIP MAP Application Oracle scripts** subset to be installed first.

This procedure will also start the server.

Launch under root account:

```
su - root
/usr/mcc/map/bin/temip_map_database_setup
```

```
Confirm the value of CONFIGPATH    [/var/mcc/config]:
Confirm the value of DIRECTOR_USER    [temip]:
Confirm the value of ORACLE_HOME    [/usr/kits/oracle]:
Confirm the value of ORACLE_SID    [temipmap]:
```

```
You have defined these parameters :

       - ORACLE_HOME   =  /usr/kits/oracle
       - ORACLE_SID    =  temipmap

       - The current TeMIP director user is : temip

Is this OK ? (Y to continue ; N to end the process) :Y
```

```
Choose:

  - Configure a Server               [1]
  - Configure a Client               [2]
  - Monitor a Server                 [3]

  - Quit  (Get one level up)         [q]
  - Exit  (terminate the session)    [e]

                               Enter your choice: 1
```

```
Configuring a Server...

    Choose the type of server you want to configure :

      - Configure a Master Server                [1]
      - Configure a Replica Server               [2]

      - Quit  (Get one level up)                 [q]
      - Exit  (terminate the session)            [e]

                              Enter your choice :1
```

```
    Creating a Master temipmap Server...

        Choose the type of operation you want to perform :

          - Modify Server parameters                  [1]
          - Create an empty master server             [2]
          - Create a master server with objects       [3]
          - Create master objects                     [4]
```

```
          - Remove master objects                       [5]

          - Quit  (Get one level up)                    [q]
          - Exit  (terminate the session)               [e]

                                Enter your choice : 3
```

```
  Creating a Server...
        ------------------------------------------------------------
        You must enter the value of the parameter "Oracle Admin User"

         DESCRIPTION : This user that performs administrative tasks
within the oracle database.
        This user must be DBA

            Enter Oracle Admin User [oracle]:
```

```
      ------------------------------------------------------------
        You must enter the value of the parameter "Database Name"

         DESCRIPTION : Name of the database that will be created/used
for this instance.
        Default is the 6 first characters of your machine name.

             Enter Database Name        [temipmap]         =
```

```
        ------------------------------------------------------------
        You must enter the value of the parameter "Database Domain"

         DESCRIPTION : Domain that your database belongs to.
        If your machine name is sales.division1.acme.com,
        a good candidate for domain name is division1.acme.com

             Enter Database Domain [world]          = temip_domain
```

```
   ------------------------------------------------------------------
    You must enter the value of the parameter "SQLnet Service Name"

     DESCRIPTION : Service Name of the database

         Enter SQLnet Service Name = temipmap_{machine}
```

```
------------------------------------------------------------------

    You must enter the value of the parameter "Database Sid"

     DESCRIPTION : Service identifier (SID) of the database you want to
communicate with.

         Enter Database Sid = temipmap
```

```
------------------------------------------------------------------
    You must enter the value of the parameter "Server name"
```

```
    DESCRIPTION : Full name of the machine on which the database
server is installed

        Enter Server name = {machine.xxx.yyy.net} www.xxx.yyy.net
```

```
e
```

4.1.2 Oracle modified files

4.1.2.1 Listener.ora

```
#
# Installation Generated Net8 Configuration
# Version Date: Jun-17-97
# Filename: Listener.ora
#
LISTENER =
  (ADDRESS_LIST =
        (ADDRESS= (PROTOCOL= IPC)(KEY= temipmap))
        (ADDRESS= (PROTOCOL= IPC)(KEY= PNPKEY))
        (ADDRESS= (PROTOCOL= TCP)(Host= xxx.yyy.zzz.net)(Port=
1521))
  )
SID_LIST_LISTENER =
  (SID_LIST =
    (SID_DESC =
      (GLOBAL_DBNAME= xxx.yyy.zzz.net.temip_domain)
      (ORACLE_HOME= /usr/ORACLE/ORACLE8/u01/product/8.0)
      (SID_NAME = temipmap)
    )
    (SID_DESC =
      (SID_NAME = extproc)
      (ORACLE_HOME = /usr/ORACLE/ORACLE8/u01/product/8.0)
      (PROGRAM = extproc)
    )
  )
STARTUP_WAIT_TIME_LISTENER = 0
CONNECT_TIMEOUT_LISTENER = 10
TRACE_LEVEL_LISTENER = OFF
```

Remarks:

- The PNPKEY address is the default value
- Reference 'Net8 Administrator's Guide, Release 8.0'
- GLOBAL_DBNAME = DB_NAME.DB_DOMAIN

4.1.2.2 Tnsnames.ora

```
#
# Installation Generated Net8 Configuration
# Version Date: Oct-27-97
# Filename: Tnsnames.ora
#
extproc_connection_data =
```

```
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = IPC)(KEY = temipmap))
    (CONNECT_DATA = (SID = extproc))
  )

temipmap_master=
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL= TCP)(Host= master.yyy.zzz.net)(Port=
1521))
    (CONNECT_DATA = (SID = temipmap))
  )

temipmap_snapshot1=
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL= TCP)(Host= snapshot1.yyy.zzz.net)(Port=
1521))
    (CONNECT_DATA = (SID = temipmap))
  )

temipmap_snapshot2=
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL= TCP)(Host= snapshot2.yyy.zzz.net)(Port=
1521))
    (CONNECT_DATA = (SID = temipmap))
  )
...
```

4.2 Configuring a snapshot server

4.2.1 Procedure

This procedure needs the **TeMIP MAP Application Oracle scripts** subset to be installed first.

This procedure will also start the server.

Launch under root account:

```
su - root
/usr/mcc/map/bin/temip_map_database_setup
```

Give the value of CONFIGPATH: /var/mcc/config

```
Confirm the value of CONFIGPATH    [/var/mcc/config]:
Confirm the value of DIRECTOR_USER    [temip]:
Confirm the value of ORACLE_HOME    [/usr/kits/oracle]:
Confirm the value of ORACLE_SID    [temipmap]:
```

```
You have defined these parameters :

       - ORACLE_HOME   =  /usr/kits/oracle
       - ORACLE_SID    =  temipmap
```

```
       - The current TeMIP director user is : temip

Is this OK ? (Y to continue ; N to end the process) :Y
```

```
Choose:

  - Configure a Server               [1]
  - Configure a Client               [2]
  - Monitor a Server                 [3]

  - Quit  (Get one level up)         [q]
  - Exit  (terminate the session)    [e]

                              Enter your choice: 1
```

```
Configuring a Server...

    Choose the type of server you want to configure :

      - Configure a Master Server                [1]
      - Configure a Replica Server               [2]

      - Quit  (Get one level up)                 [q]
      - Exit  (terminate the session)            [e]

                             Enter your choice :2
```

```
    Creating a Replica temipmap Server...

        Choose the type of operation you want to perform :

          - Modify Server parameters                  [1]
          - Create an empty replica server            [2]
          - Create a replica server with objects      [3]
          - Create replica objects                    [4]
          - Remove replica objects                    [5]

          - Quit  (Get one level up)                  [q]
          - Exit  (terminate the session)             [e]

                              Enter your choice : 3
```

```
  Creating a Server...
        ------------------------------------------------------------
        You must enter the value of the parameter "Oracle Admin User"

         DESCRIPTION : This user that performs administrative tasks
within the oracle database.
        This user must be DBA

            Enter Oracle Admin User [oracle]:
```

```
      ------------------------------------------------------------
        You must enter the value of the parameter "Database Name"

         DESCRIPTION : Name of the database that will be created/used
for this instance.
        Default is the 6 first characters of your machine name.

             Enter Database Name        [temipmap]         =
```

```
        ------------------------------------------------------
        You must enter the value of the parameter "Database Domain"

         DESCRIPTION : Domain that your database belongs to.
        If your machine name is sales.division1.acme.com,
        a good candidate for domain name is division1.acme.com

             Enter Database Domain [world]          = temip_domain
```

```
      ------------------------------------------------------------

 You must enter the value of the parameter "SQLnet Master Service Name"

     DESCRIPTION : Service Name of the master database

         Enter SQLnet Master Service Name = temipmap_{master}
```

```
      ------------------------------------------------------------

You must enter the value of the parameter "SQLnet Service Snapshot
Name"

     DESCRIPTION : Service Name of the snapshot database

         Enter SQLnet Snapshot Service Name = temipmap_{snapshot}
```

```
------------------------------------------------------------------

    You must enter the value of the parameter "Database Sid"

     DESCRIPTION : Service identifier (SID) of the database you want to
communicate with.

         Enter Database Sid = temipmap
```

```
------------------------------------------------------------------
    You must enter the value of the parameter "Master server name"

     DESCRIPTION : Full name of the master machine

     Enter Master server name = {master.xxx.yyy.net} www.xxx.yyy.net
```

```
-----------------------------------------------------------------
    You must enter the value of the parameter "Snapshot server name"

     DESCRIPTION : Full name of the Snapshot machine

     Enter Snapshot server name = {snapshot.xxx.yyy.net}www.xxx.yyy.net
```

```
e
```

4.2.2 Oracle Modified files

4.2.2.1 Listener.ora

```
#
# Installation Generated Net8 Configuration
# Version Date: Jun-17-97
# Filename: Listener.ora
#
LISTENER =
  (ADDRESS_LIST =
        (ADDRESS= (PROTOCOL= IPC)(KEY= temipmap))
        (ADDRESS= (PROTOCOL= IPC)(KEY= PNPKEY))
        (ADDRESS= (PROTOCOL= TCP)(Host= xxx.yyy.zzz.net)(Port=
1521))
  )
SID_LIST_LISTENER =
  (SID_LIST =
    (SID_DESC =
      (GLOBAL_DBNAME= xxx.yyy.zzz.net.temip_domain)
      (ORACLE_HOME= /usr/ORACLE/ORACLE8/u01/product/8.0)
      (SID_NAME = temipmap)
    )
    (SID_DESC =
      (SID_NAME = extproc)
      (ORACLE_HOME = /usr/ORACLE/ORACLE8/u01/product/8.0)
      (PROGRAM = extproc)
    )
  )
STARTUP_WAIT_TIME_LISTENER = 0
CONNECT_TIMEOUT_LISTENER = 10
TRACE_LEVEL_LISTENER = OFF
```

Remarks:

- The PNPKEY address is the default value
- Reference 'Net8 Administrator's Guide, Release 8.0'
- GLOBAL_DBNAME = DB_NAME.DB_DOMAIN

4.2.2.2 Tnsnames.ora

```
#
# Installation Generated Net8 Configuration
# Version Date: Oct-27-97
# Filename: Tnsnames.ora
#
extproc_connection_data =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = IPC)(KEY = temipmap))
    (CONNECT_DATA = (SID = extproc))
  )

temipmap_snapshot=
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL= TCP)(Host= snapshot.yyy.zzz.net)(Port=
1521))
    (CONNECT_DATA = (SID = temipmap))
  )

temipmap_master=
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL= TCP)(Host= master.yyy.zzz.net)(Port=
1521))
    (CONNECT_DATA = (SID = temipmap))
  )
```

Remarks:

- Reference 'Net8 Administrator's Guide, Release 8.0'
- Syntax:
- service name= (description =
  (address = ...)
  (connect_data=(sid=db1))

4.3 Configuring a client

4.3.1 Procedure

This procedure needs the **TeMIP MAP Application Oracle scripts** subset to be installed first.

Note that this procedure is automatic at the end of *temip_map_setup*, but this step could be useful when a new configuration is needed.

Launch under root account:

```
su - root
/usr/mcc/map/bin/temip_map_database_setup
```

```
Give the value of CONFIGPATH: /var/mcc/config
Confirm the value of CONFIGPATH    [/var/mcc/config]:
Confirm the value of DIRECTOR_USER    [temip]:
Confirm the value of ORACLE_HOME    [/usr/kits/oracle]:
Confirm the value of ORACLE_SID    [temipmap]:
```

```
You have defined these parameters :

       - ORACLE_HOME   =  /usr/kits/oracle
       - ORACLE_SID    =  temipmap

       - The current TeMIP director user is : temip

Is this OK ? (Y to continue ; N to end the process) :Y
```

```
  - Configure a Server              [1]
  - Configure a Client              [2]
  - Monitor a Server                [3]

  - Quit  (Get one level up)        [q]
  - Exit  (terminate the session)   [e]

                                  Enter your choice: 2
```

```
Configuring a  Client...

    Choose the operation you want to perform :

      - Configure an Oracle client       [1]

      - Quit  (Get one level up)         [q]
      - Exit  (terminate the session)    [e]

                      Enter your choice : 1
```

```
 Configuring an Oracle client...
    Updating an Oracle client...
    ---------------------------------------------------------------
    You must enter the value of the parameter "SQLnet Service Name"

     DESCRIPTION : Service Name of the database you want to communicate
with.

         Enter SQLnet Service Name = temipmap_{machine}
```

```
---------------------------------------------------------------
    You must enter the value of the parameter "Database Sid"

     DESCRIPTION : Service identifier (SID) of the database you want to
communicate with.

         Enter Database Sid = temipmap
```

```
---------------------------------------------------------------
    You must enter the value of the parameter "Server name"

     DESCRIPTION : Full name of the machine on which the database
server is installed
```

```
       Enter Server name = xxxx.yyyy.net
```

```
    Choose the operation you want to perform :

      - Configure an Oracle client       [1]

      - Quit  (Get one level up)         [q]
      - Exit  (terminate the session)    [e]

                Enter your choice : e
```

4.4 Restarting a master or snapshot server

4.4.1 Procedure

This procedure needs the **TeMIP MAP Application Oracle scripts** subset to be installed first.

Note that this procedure is automatic at the end of *temip_map_setup*, but this step could be useful when a new configuration is needed.

Launch under root account:

```
su - root
/usr/mcc/map/bin/temip_map_database_setup
```

```
Give the value of CONFIGPATH: /var/mcc/config
Confirm the value of CONFIGPATH    [/var/mcc/config]:
Confirm the value of DIRECTOR_USER    [temip]:
Confirm the value of ORACLE_HOME    [/usr/kits/oracle]:
Confirm the value of ORACLE_SID    [temipmap]:
```

```
You have defined these parameters :

       - ORACLE_HOME   =  /usr/kits/oracle
       - ORACLE_SID    =  temipmap

       - The current TeMIP director user is : temip

Is this OK ? (Y to continue ; N to end the process) :Y
```

```
  - Configure a Server             [1]
  - Configure a Client             [2]
  - Monitor a Server               [3]

  - Quit  (Get one level up)       [q]
  - Exit  (terminate the session)  [e]
```

```
                                Enter your choice: 3
```

```
Monitor a Server...

        Choose the type of operation you want to perform :

          - Stop a Server                                       [1]
          - Restart Server                                      [2]
          - Destroy a Server                                    [3]
          - Modify Server parameters                            [4]
          - Install MapNT Server DB Boot procedure              [5]
          - Remove  MapNT Server DB Boot procedure              [6]
          - Update tablespaces (sizing)                         [7]
          - Update schema storage parameters                    [8]

          - Quit  (Get one level up)                    [q]
          - Exit  (terminate the session)               [e]

                                Enter your choice : 2
```

```
------------------------------------------------------------
        You must enter the value of the parameter "Oracle Admin User"

         DESCRIPTION : This user that performs administrative tasks
within the oracle database.
        This user must be DBA

            Enter Oracle Admin User [oracle]:
```

```
e
```

4.5 Stopping a master or snapshot server

4.5.1 Procedure

This procedure needs the **TeMIP MAP Application Oracle scripts** subset to be installed first.

Note that this procedure is automatic at the end of *temip_map_setup*, but this step could be useful when a new configuration is needed.

Launch under root account:

```
su - root
/usr/mcc/map/bin/temip_map_database_setup
```

```
Give the value of CONFIGPATH: /var/mcc/config
Confirm the value of CONFIGPATH    [/var/mcc/config]:
Confirm the value of DIRECTOR_USER    [temip]:
Confirm the value of ORACLE_HOME    [/usr/kits/oracle]:
```

```
Confirm the value of ORACLE_SID    [temipmap]:
```

```
You have defined these parameters :

       - ORACLE_HOME   =  /usr/kits/oracle
       - ORACLE_SID    =  temipmap

       - The current TeMIP director user is : temip

Is this OK ? (Y to continue ; N to end the process) :Y
```

```
  - Configure a Server              [1]
  - Configure a Client              [2]
  - Monitor a Server                [3]

  - Quit  (Get one level up)        [q]
  - Exit  (terminate the session)   [e]

                                  Enter your choice: 3
```

```
Monitor a Server...

        Choose the type of operation you want to perform :

          - Stop a Server                                       [1]
          - Restart Server                                      [2]
          - Destroy a Server                                    [3]
          - Modify Server parameters                            [4]
          - Update tablespaces (sizing)                         [5]
          - Update schema storage parameters                    [6]

          - Quit  (Get one level up)                    [q]
          - Exit  (terminate the session)               [e]

                                  Enter your choice : 1
```

```
------------------------------------------------------------
        You must enter the value of the parameter "Oracle Admin User"

         DESCRIPTION : This user that performs administrative tasks
within the oracle database.
        This user must be DBA

            Enter Oracle Admin User [oracle]:
```

```
e
```

5 Configuring the Map Application Servers

5.1 Configuring the Servers

5.1.1 Procedure

Launch under root account:

```
su - root
/usr/mcc/map/bin/temip_map_setup [-s Oracle_Server_Hostname] [-f
Default_Format]
```

5.1.2 Modified files

5.1.2.1 Tnsnames.ora

```
temipmap_xxx =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL= TCP)(Host= xxx.yyy.zzz)(Port= 1521))
    (CONNECT_DATA = (SID = temipmap))
  )
```

5.1.2.2 .temip_config

```
###
# BEGIN: MAP Application Server Variables
#
HDS_DB_NAME=temipmap_xxx
#
# END: MAP Application Server Variables
###
```

6 Customization and Tuning information

6.1 Alarm Collection Server

6.1.1 Queue sizes

```
TeMIP> show mcc 0 acs_fm all attr

MCC dophin_NS:.temip.xxx_director ACS_FM
On director: xxx_NS:.temip.xx_director
AT Mon Aug  7 11:49:04 All Attributes

            Collections Count = 6
            Sources Count = 2
            Component Identification = "Alarm Collection Server FM"
            Collection Max Queue Size = 10000
            Collection Max Threshold = 9999
            Collection Min Threshold = 7000
            Source Max Queue Size = 10000
            Source Max Threshold = 9999
            Source Min Threshold = 7000
TeMIP>
```

These attributes are settable, but are not taken into account dynamically by the module. A restart is needed for these new values to be taken into account.

```
TeMIP> set mcc 0 acs_fm Collection Min Threshold = 7000,  -
            Collection Max Threshold = 9999, -
            Collection Max Queue Size = 10000, -
            Source Min Threshold = 7000, -
            Source Max Threshold = 9999, -
            Source Max Queue Size = 10000

TeMIP>
```

If the new values place the queue in an incoherent state, the Set Atomic exception is returned and the values are not updated.

6.1.2 Environment variables

These variables can be set in the *.temip_config* file.

```
ACS_SUMMARIZE_START_SYNC_DELAY=10000
ACS_SUMMARIZE_ END _SYNC_DELAY=10000
ACS_ REPLY_SEQ_MAX_LENGTH =10
ACS_CONGESTION_POLICY_THROW=0
```

Variable	Definition	Default
ACS_SUMMARIZE_START_SYNC_DELAY	Defines the delay before collecting past alarms, after listening for alarm events has been started. To be really operational, this delay is required to ensure that collection is done after event listening has completed. (default value is 1000 ms)	10000
ACS_SUMMARIZE_ END _SYNC_DELAY	Defines the delay before assuming alarm collection and events received are synchronized, once all the past alarms have been collected. (default value is 10000 ms)	10000
ACS_ REPLY_SEQ_MAX_LENGTH	Defines the maximum severity occurrences to reply at the same time in a subscribe severity occurrence directive reply. (default value is 10)	10
ACS_CONGESTION_POLICY_THROW	Select whether the congestion policy must be to throw (set to “ON”) or to block (set to “OFF”). (default value is OFF)	0

6.2 Hierarchy And Decoration Server

6.2.1 Queue sizes

```
TeMIP> show  mcc 0 hds_fm all attr

MCC xxx_NS:.temip.xxx_director HDS_FM
On director: xxx_NS:.temip.xxx_director
```

```
AT Mon Aug  7 12:48:10 All Attributes

      Component Identification = "Hierarchy and Decoration Server FM"
      Component Version = X1.0.0
      Decoration Context Max Queue Size = 10000
      Decoration Context Max Threshold = 9990
      Decoration Context Min Threshold = 9700
      Decoration Source Max Queue Size = 10000
      Decoration Source Max Threshold = 9990
      Decoration Source Min Threshold = 9700
```

These attributes are settable, but are not taken into account dynamically by the module. A restart is needed for these new values to be taken into account.

```
TeMIP> set mcc 0 acs_fm Decoration Context Max Queue Size = 10000, -
      Decoration Context Max Threshold = 9990, -
      Decoration Context Min Threshold = 9700, -
      Decoration Source Max Queue Size = 10000, -
      Decoration Source Max Threshold = 9990, -
      Decoration Source Min Threshold = 9700
```

If the new values place the queue in an incoherent state, the Set Atomic exception is returned and the values are not updated.

6.2.2 Environment variables

These variables can be set in the *.temip_config* file.

Variable	Definition	Value
HDS_DB_NAME	Define the Name of the Oracle SID	**Ex: temipmap_xxx** - Mandatory
HDS_MAP_FILES_LIST_MAPS_USE_SHOW	The listmaps directive does a "Dir domain *" when set to 0. When set to 1 it does a "Dir domain *" and a "Show domain xxx map" to ensure that a map is associated with this domain	**Ex: 0 or 1** - Optional Default: 0
HDS_OPEN_MAP_ITEMS_PER_REPLY	Number of map items put in each reply of the OPEN directive. If this variable is not set, the reply is filled as much as possible.	**Ex: 5** - Optional
HDS_LIST_MAPS_ITEMS_PER_REPLY	Number of maps put in each reply of the LISTMAPS directive. If this variable is not set, the reply is filled as much as possible.	**Ex: 10** - Optional
HDS_MAX_REPLY_SIZE	Used when one of the previous ITEMS_PER_REPLY variable is	- Optional

	not defined.	Default: 64000
Variable	**Definition**	**Value**
HDS_MAP_FILES_DUP_ENTITIES_CHECK	Enable check of duplicate entities in Map File format	**Ex: ON or OFF** - Optional Default : OFF
HDS_MAP_FILES_TO_ABSTRACT_COORD_RATIO	Ratio applied to coordinates in Map File format to obtain coordinates in Abstract Map format (equivalent to Oracle format)	- Optional Default: 500
HDS_DECO_REPLY_SEQ_MAX_LENGTH	Maximum length of the decoration-context-subscribe reply-sequence.	- Optional Default : 10
HDS_DB_NB_READ_SESSIONS	Number of sessions for read access to the database.	- Optional Default : 10
HDS_DB_NB_WRITE_SESSIONS	Number of sessions for write access to the database.	- Optional Default : 5
HDS_DB_FAIL_OVER_RETRY_DELAY	When not using the usual database (local for reading, and master for write) during a fail-over, this delay (in seconds) will be waited before trying again a connection	- Optional Default : 5
HDS_DB_LISTENER_QUEUE_SIZE	Size of the queue that collects the map change notification from database	- Optional Default : 100
HDS_DB_LISTENER_QUEUE_MINTHR	Minimum threshold value of the map change notification collector queue	- Optional Default : 70
HDS_DB_LISTENER_QUEUE_MAXTHR	Maximum threshold value of the map change notification collector queue.	- Optional Default : 99
HDS_DB_MAP_CHANGE_NOTIF_TIME_PRECISION	Period (in second) to check for refresh effectiveness when a map change notification is received by a replica site.	- Optional Default : 10

7 Troubleshooting information

7.1 Alarm Collection Server

7.1.1 Collection management

On each Collection created, a set of information allows the administrator to trace if the collections are in an adequate state or not.

7.1.1.1 Getting information on collections

```
TeMIP> show temip .temip.xxx_temip collection alarm_collection_services
collection 140 all attr

TEMIP xxx_NS:.temip.xxx_temip COLLECTION_SERVICES
ALARM_COLLECTION_SERVICES COLLECTION 140
On director: dophin_NS:.temip.xxx_director
AT Thu Aug 10 14:43:17 All Attributes

                     AlarmCollectionId = 140
                               Sources = { (
                                    Source = (
                                  SourceName = OPERATION_CONTEXT
xxx_NS:.oc4 ,
                                 SourceScope = Not-Closed ),
                                        Id = 12 ) }
                               Creator = "user@machine@RealTimeAH@-
08/10/2000 10:43:38"
                     Operational State = Enabled
                      Disabled Sources = {  }
     Operational State Change TimeStamp = Thu Aug 10 10:43:59
                  Congested Queue Count = 0
                      Lost Events Count = 0
          Congested Source Queue Counts = {  }
  Congested Startup Source Queue Counts = {  }
```

7.1.1.2 Operational State

This attribute gives the operability of the collection. The value can be enabled or disabled.
The collection is enabled, if at least one source is enabled.

7.1.1.3 Disabled Sources

This attribute gives the operability of the sources. The *Operational State* attribute only informs when all the sources are disabled, or when at least one source is enabled.

7.1.1.4 Operational State Change TimeStamp

The time at which the *Operational State* changed.

7.1.1.5 Congested Queue Count

This counter gives the number of times the queue associated with the Alarm Collection has been congested.

7.1.1.6 Lost Events Count

This counter gives the number of events lost while the queue was in a congested state.

7.1.1.7 Congested Source Queue Counts

For each scoped source, these counters give the number of times the queues associated with the scoped sources have been congested.

7.1.1.8 Congested Startup Source Queue Counts

For each scoped source, these counters give the number of times the queues associated with the scoped sources have been congested during the startup stage.

7.1.2 Source management

On each Source, a set of information allows the administrator to trace if the sources are in an adequate state or not.

7.1.2.1 Getting information on sources

```
TeMIP> show temip .temip.dophin_temip collection_services
alarm_collection_services source 12 all attr

TEMIP dophin_NS:.temip.dophin_temip COLLECTION_SERVICES
ALARM_COLLECTION_SERVICES SOURCE 12
On director: dophin_NS:.temip.dophin_director
AT Thu Aug 10 14:46:07 All Attributes

                              SourceId = 12
                           Source Name = OPERATION_CONTEXT xxx_NS:.
oc4
                       Collection List = { 3,
                                           126,
                                           139 }
                     Operational State = Enabled
          Status Condition Explanation = "12 - Collection active"
```

7.1.2.2 Collection List

List of collections that are using this source

7.1.2.3 Status Condition Explanation

Text describing the general status or the last error that caused the *Operational Status* or *Availability Status* to change.

7.1.2.4 Operational State

This attribute gives the operability of the collection.

7.1.3 Trace information

Description of the Levels	Value
Function Entrance – Exit	0x0001
Information	0x0002
Exception	0x0004
Abnormal problems detected (caught exceptions, bad CVRs, ...)	0x0008
Replies returned by TeMIP directives	0x0010
Mutex/monitor locking and releasing	0x0020

Trace Level	Value
Everything about the sources	0x8000000000000000
Everything about the scoped_sources	0x4000000000000000
Everything about the collections sources	0x2000000000000000
Everything about the collections	0x1000000000000000
ACS Miscellaneous information (sizes, ...)	0x0800000000000000
ACS Module	0x0400000000000000

```
TeMIP> set mcc 0 appli acs_fm trace mask = 0x9000000000000003
```

7.2 Hierarchy And Decoration Server

7.2.1 Decoration management

To Complete

7.2.2 Trace information

Two levels of traces can be combined.

Description of the Levels	Value
Function Entrance – Exit	0x0001
Information	0x0002
Exception	0x0004
Abnormal problems detected (caught exceptions, bad CVRs, ...)	0x0008
Replies returned by TeMIP directives	0x0010
Mutex/monitor locking and releasing	0x0020

Description of the Modules	Value
HDS Module	0x8000000000000000
HDS Miscellaneous	0x4000000000000000
Decoration: miscellaneous	0x0080000000000000
Decoration: context	0x0040000000000000
Decoration: plan	0x0020000000000000
Decoration: collector	0x0010000000000000
Database: misc	0x0008000000000000
Database: sql	0x0004000000000000
Database: API	0x0002000000000000
Database: oracle	0x0001000000000000
Abstract MAP API	0x0000800000000000
MAP File API	0x0000080000000000
Active MAP	0x0000008000000000
Map Item Construction	0x0000004000000000
Hierarchy Services	0x0000000800000000
Hierarchy Context	0x0000000080000000
Map	0x0000000008000000
Top Map	0x0000000004000000

At least one of the levels must be activated for the traces to give outputs.

```
TeMIP> set mcc 0 appli hds_fm trace mask = 0x8000000000000001
```

7.3 Oracle Server

7.3.1 Common Networks Errors

Refer to “Oracle Net8 Administrator’s Guide” for more information

Error #: Message	Description/Troubleshooting Procedures
ORA-12154: "TNS:could not resolve service name"	Cause: Net8 could not locate the service name specified in the TNSNAMES.ORA configuration file. Actions: 1.Verify that a TNSNAMES.ORA file exists and that it is accessible. 2.Verify that there are not multiple copies of the TNSNAMES.ORA file. 3.In your TNSNAMES.ORA file, verify that the service name specified in your connect string is mapped to a connect descriptor in the TNSNAMES.ORA file. Also, verify that there are no syntax errors in the file. 4.Verify that there are no duplicate copies of the SQLNET.ORA file. 5.If you are using domain names verify that your SQLNET.ORA file contains a NAMES.DEFAULT_DOMAIN parameter. If this parameter does not exist, you must specify the domain name in your connect string. If you are not using domain names, and this parameter exists, delete it or disable it by commenting it out. 6.If you are connecting from a login box, verify that you are not placing an "@" symbol before your connect service name.

ORA-12198: ``TNS:could not find path to destination" and  ORA-12203 ``TNS:unable to connect to destination"	Cause: The client is not able to find the desired database. Actions: 1.Verify that you have entered the service name you wish to reach correctly. 2.Verify that the service name ADDRESS parameters in the connect descriptor of your TNSNAMES.ORA file are correct. 3.Verify that your TNSNAMES.ORA file is stored in the correct directory. 4.Verify that the listener on the remote node has started and is running. If not, start the listener by using the Listener Control Utility. 5.If you are connecting from a login box, verify that you are not placing an "@" symbol before your connect service name.
ORA-12224:"TNS:no listener"	Cause: The connection request could not be completed because the listener is not running. Actions: 1.Ensure that the supplied destination address matches one of the addresses used by the listener. 2.Verify also that this is not a version compatibility problem.
ORA-12533: "TNS:illegal ADDRESS parameters"	Cause: The protocol specific parameters in the ADDRESS section of the designated connect descriptor in your TNSNAMES.ORA file are incorrect.
ORA-12545: "TNS:name lookup failure"	Cause: The listener on the remote node cannot be contacted. Actions: 1.Verify that the ADDRESS in the TNSNAMES.ORA file or the LISTENER.ORA file is correct. 2.Verify that the listener on the remote node has been started. You may check its status with the STATUS command of the Listener Control Utility, and start it with the START command if necessary.
ORA-3113: "TNS:End of file on communication channel"	Cause: An unexpected end of file was processed on the communication channel. This may be an indication that the communications link may have gone down at least temporarily; it may indicate that the server has gone down.

7.3.2 Common Messages

Error #: Message	**Description/Troubleshooting Procedures**
ORA-1034: "Oracle not available"	Cause: Oracle was not started up. Possible causes include the following: The SGA requires more space than was allocated for it. The operating system variable pointing to the instance was improperly defined. Action: 1.Refer to accompanying messages for possible causes and correct the problem mentioned in the other messages.Actions 2.Verify the processes : ➢ ps –ef | grep ora | grep <*oracle_sid*> ora_dbw0_<*oracle_sid*> ora_pmon_<*oracle_sid*>

	ora_lgwr_<*oracle_sid*> ora_ckpt_<*oracle_sid*> ora_reco_<*oracle_sid*> ora_snp0_<*oracle_sid*> ora_smon_<*oracle_sid*> ora_s000_<*oracle_sid*> ora_d000_<*oracle_sid*> ora_d001_<*oracle_sid*> ora_d002_<*oracle_sid*> ora_d003_<*oracle_sid*> ora_d004_<*oracle_sid*> ora_d005_<*oracle_sid*> ora_d006_<*oracle_sid*> ora_d007_<*oracle_sid*> ora_d008_<*oracle_sid*> ora_d009_<*oracle_sid*> ora_d010_<*oracle_sid*> ora_d011_<*oracle_sid*> ora_d012_<*oracle_sid*> Stop and restart the database, if processes are not found
ORA-01014: Oracle shutdown in progress	Cause: A user tried to log on to Oracle while an instance shutdown was in progress. Oracle logons are disabled while Oracle is being shut down. Action: Wait until Oracle is brought back up before attempting to log on.

7.3.3 Trace Files

Oracle Server Products provide information about background processes in trace file:
$ORACLE_HOME/dbs<oracle_sid>/bdump/alert_<oracle_sid>.log
(Example, /usr/kits/oracle/dbstemipmap/bdump/alert_temipmap.log).

Identifying error information (ORA-xxxx:message) will help you to resolve problems.

7.3.4 Help about error information

An Oracle tool can help you to get information about an ORA-xxxx error:
> $ORACLE_HOME/bin/oerr ora xxxx

Oerr displays probable cause of the error and the action to begin.

7.3.5 Stop and start the database manually

Login oracle (dba)

- setenv ORACLE_HOME /usr/kits/oracle
- setenv ORACLE_SID <*oracle_sid*> (Example, temipmap)

- $ORACLE_HOME/bin/svrmgrl

SVRMGRL> connect internal

Stop:
SVRMGRL> shutdown normal | immediate | abort

SVRMGRL>exit

Start:
SVRMGRL> startup open pfile=/usr/kits/oracle/dbs<*oracle_sid*>/init<*oracle_sid*>.ora
(Example, SVRMGRL> startup open pfile=/usr/kits/oracle/dbstemipmap/inittemipmap.ora)

SVRMGRL> exit

Stop modes:	**Normal**	**Immediate**	**Abort**
New connection authorized			
Wait for the end of current sessions			
Wait for the end of current transactions			
Close files			
Cancel current transactions			

Verify the listener:
- $ORACLE_HOME/bin/lsnrctl status

if needed, stop and restart the listener:
- $ORACLE_HOME/bin/lsnrctl stop
- $ORACLE_HOME/bin/lsnrctl start

8 Installation using System Mate

8.1 Importing the configuration associated with the TeMIP MAP Application Servers

Import the MAPV41 configuration:

· Start the SystemMate client by launching

stm_client_start <server_name>

· Open the Installation Wizard (Menu Installation then Install Wizard)

· Choose File->Import

· Select with the 'File chooser' the configuration to import:

root path/TeMIP-T410-UNIX/TeMIP-MAP/CONFIGURATION/MAPV41.jar

8.2 Deploying the TeMIP MAP Application Servers

Open the Installation Wizard, if not already done (Menu Installation then Install Wizard)

· Case 1 : Install the kit on your host

Choose the ComponentPackage level configuration: MAP Application Server V4.1 and execute one of the directives:

8.2.1 Install Map Servers

The parameters to specify during the installation are:

- **Kit_Location**: path to the setld kit of the MAP product
  root path/TeMIP-T410-UNIX/TeMIP-MAP/KIT
- **Hostname1**: your host
- **Oracle server hostname** : hostname of the Oracle database server, or the string none.
- **Default Map Format** : can be Oracle or Map_File.

8.2.2 Install Map Oracle Scripts

This install can be done only if an Oracle Server was already setup.
(see: **2.** Installing the Oracle Server)

The parameters to specify during the installation are:

- **Kit_Location**: path to the setld kit of the MAP product
  root path/TeMIP-T410-UNIX/TeMIP-MAP/KIT
- **Hostname1**: your host

8.2.3 Setup Map Oracle database (MASTER) or (SNAPSHOT)

This setup can be done only after the previous step (see: **8.2.2** Install Map Oracle Scripts) or a manual installation of the MAPORAT410 subset from the kit.

Some parameters have a default value that you can use. In that case, just click OK.
The parameters you must specify during the setup are:

- **Hostname1**: your host
- **SQLNet service name master :** example: temipmap_masterhost
- **SQLNet service name snapshot *:** example : temipmap_snapshothost

- **Master hostname :** full hostname with domain part
- **Snapshot hostname *:** full hostname with domain part

(*) Only required for snapshot setup

8.2.4 Start Map Oracle database (MASTER or SNAPSHOT)

This setup can be done only after the previous step (see: **8.2.2** Install Map Oracle Scripts) or a manual installation of the MAPORAT410 subset from the kit.

Some parameters have a default value that you can use. In that case, just click OK.
The parameters you must specify during the setup are:

- **Hostname1**: your host

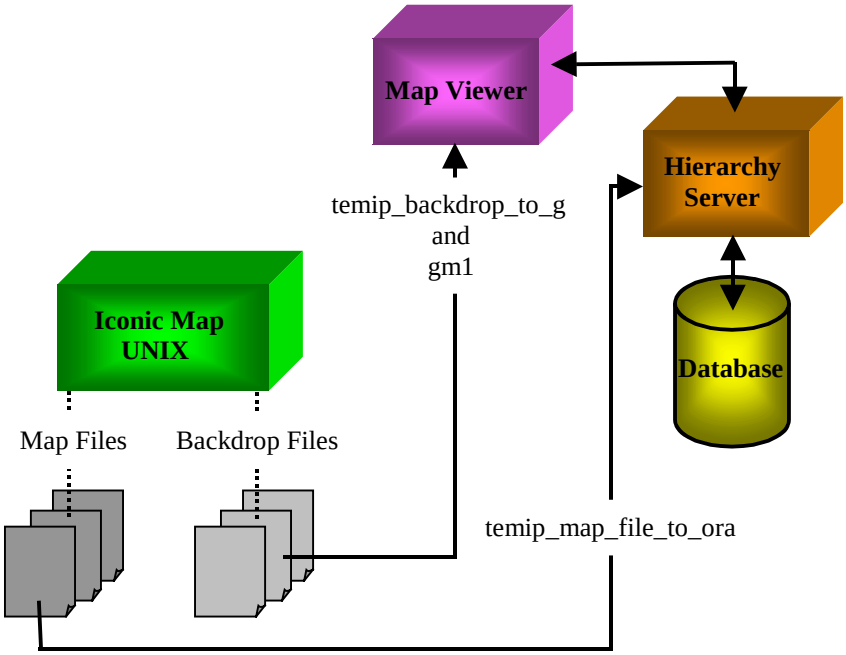
8.2.5 Stop Map Oracle database (MASTER or SNAPSHOT)

This setup can be done only after the previous step (see: **8.2.2** Install Map Oracle Scripts) or a manual installation of the MAPORAT410 subset from the kit.

Some parameters have a default value that you can use. In that case, just click OK.
The parameters you must specify during the setup are:

· **Hostname1**: your host

9 Migration from Map files to new Format



9.1 Formats supported

The Graphical Toolkit supports a set of formats, and provides tools to help the migration.

Format Name	Extension
Bitmap	BMP Only
GMS ASCII Model (Vector format)	G
GMS Model M1 (Binary Vector format)	M1

The Map Viewer and Editors only deal with M1 and BMP files. The ASCII format is a readable intermediate format.

9.2 Migrating the backdrops

9.2.1 TeMIP V4.0 Vector backdrops

Three steps are needed to convert vector backdrops:
- Conversion to G
- Copy to targeted systems
- Conversion to m1

9.2.1.1 Conversion to G

A utility is provided in */usr/mcc/map/bin* named:
- **temip_backdrop_to_g**

The *temip_backdrop_to_g* utility is a translator that converts TeMIP vector backdrop files (used by the Compaq Tru64 UNIX mcc_iconic_map application) into SL-GMS *.g* files.

Please consult the Manual pages for additional information

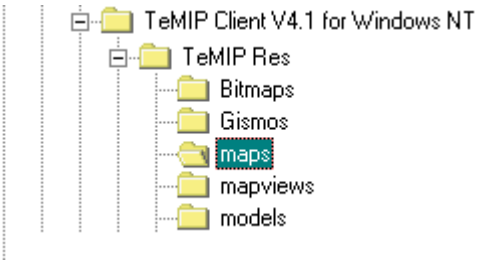
```
man 1 temip_backdrop_to_g
```

9.2.1.2 Workstation copy

The files generated must be copied to the Workstations where the TeMIP Client will run.

The files must be put in the sub directory <**maps**> of the directory pointed to by the environment variable TEMIP_MAP_RESOURCES.

```
echo %TEMIP_MAP_RESOURCES%
C:\Program Files\TeMIP Client V4.1 for Windows NT\TeMIP Res
```



9.2.1.3 Conversion to m1

Then in this directory, for each *g* file the conversion utility *gtom1must* be run.

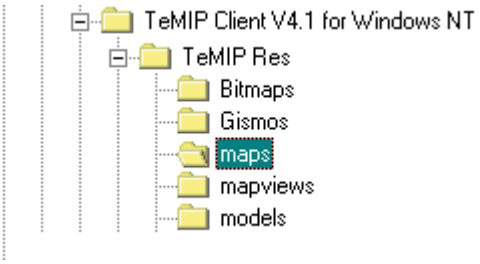
```
C:\>cd %TEMIP_MAP_RESOURCES%\maps

C:\Program Files\TeMIP Client V4.1 for Windows NT\TeMIP
Res\maps>"C:\Program Files\TeMIP Client V4.1 for Windows NT\SL-GMS
Runtime\bin\gm1.exe" brazil.g
... brazil.g
```

9.2.2 DXF backdrops

Copy your backdrops to the target workstation.

The files must be put in the sub directory <**maps**> of the directory pointed to by the environment variable TEMIP_MAP_RESOURCES.

```
echo %TEMIP_MAP_RESOURCES%
C:\Program Files\TeMIP Client V4.1 for Windows NT\TeMIP Res
```



The *dxf* backdrops can be converted with the *dxf2g* tool.

```
C:\>cd %TEMIP_MAP_RESOURCES%\maps

C:\Program Files\TeMIP Client V4.1 for Windows NT\TeMIP
Res\maps>"C:\Program Files\TeMIP Client V4.1 for Windows NT\SL-GMS
Runtime\bin\dxf2g.exe" brazil.dxf
... brazil.g
```

9.2.3 Bitmap backdrops

9.2.3.1 Conversion into BMP format

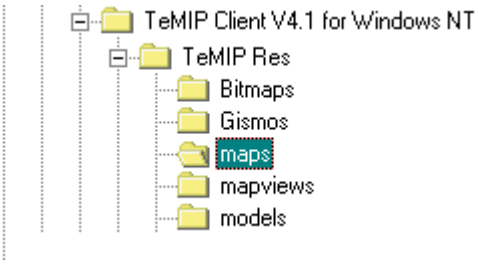
The backdrops, Bitmap (XBM) or Pixmap (XPM) used in the standard Iconic Map must first be converted into Bitmap (BMP) format using a third-party tool.

9.2.3.2 Workstation copy

The files generated must be copied to the Workstations where the TeMIP Client will run.

The files must be put in the sub directory <**maps**> of the directory pointed to by the environment variable TEMIP_MAP_RESOURCES.

```
echo %TEMIP_MAP_RESOURCES%
C:\Program Files\TeMIP Client V4.1 for Windows NT\TeMIP Res
```



9.3 Migrating icons

9.3.1 TeMIP Vector icons

No migration tool is provided to convert vector icons

9.3.2 Bitmap icons

We do not recommend using bitmap icons inside the new Map NT for performance reasons, alias or scaling issues.

9.3.3 Other Vector icons (Visio, DXF,…)

To Complete

9.4 Migrating maps

9.4.1 Migrating to the database

An utility is provided in */usr/mcc/map/bin* named:

- **temip_map_file_to_ora**

The **temip_map_file_to_ora** translates a hierarchy of Maps from the Map file format to the Oracle database format.

Refer to the Manual pages for additional information

```
man 1 temip_map_file_to_ora
```

This tool is recursive and does not allow you to change the name of the maps into the new format.
The complete hierarchy of maps will be translated and migrated to the new format, if the given map defines submaps.

A map named *domain .world.asia* will be created in the database with the same name.

The tool also set the given map as a Top Map in the database.

Then in the Open Map box of the TeMIP Map NT Client, this Map will appear as a Top Map.