This document contains important information that was not included in the platform-specific or product-specific documentation for this release. It contains the following topics:

- **Product Issues**
- **Documentation Accessibility**

This document may be updated after release. To check for updates to this document and to view other product-specific release notes, see the Documentation section on the OTN Web site:

http://www.oracle.com/technology/documentation/

For additional information about this release, see the readme files located in the $ORACLE_HOME/relnotes directory.

**Product Issues**

The following sections contain information about issues related to Oracle Database 10g and associated products:

- **Oracle Database Installation, Configuration, and Upgrade Issues**
- **Oracle Real Application Clusters Issues**
- **Other Product Issues**

**Oracle Database Installation, Configuration, and Upgrade Issues**

Review the following sections for information about issues that affect Oracle Database installation, configuration, and upgrade:

- extjob Executable Required Directory Permissions
- Enabling Automated Backups
- Upgrading an Oracle9i Database to Oracle Database 10g
- Upgrading From Oracle9i Release 2 on 64-bit zSeries Systems
- Installation Documentation Update
**extjob Executable Required Directory Permissions**
To enable the `extjob` executable to locate required libraries, the `$ORACLE_HOME/lib` directory and all of its parent directories must have execute permissions for group and other.

**Enabling Automated Backups**
While installing Oracle Database, the Specify Backup and Recovery Options screen may appear truncated if your system does not have the required fonts installed. If your system has only fixed-width fonts, you may not be able to fully specify the required information in the Backup Job Credentials area of the screen. To work around this issue, do not select **Enable Automated Backups** on this screen. After the installation is complete, use the Oracle Enterprise Manager 10g Database Control to enable automated backups.

**Upgrading an Oracle9i Database to Oracle Database 10g**
If you upgrade an Oracle9i database to Oracle Database 10g release 1, Oracle Flashback features using a timestamp may fail. To work around this problem, enter the following SQL script from the Oracle Database 10g database:

```sql
SQL> DELETE FROM smon_scn_time WHERE orig_thread <> 0;
SQL> COMMIT;
```

This issue is tracked with Oracle bug 3994270.

**Upgrading From Oracle9i Release 2 on 64-bit zSeries Systems**
To upgrade from Oracle9i release 2 on 64-bit zSeries systems to Oracle Database 10g on SUSE Linux Enterprise Server 8:

1. If necessary, do the following:
   a. Apply the Oracle9i release 2 (9.2.0.4) or higher patch set.
   b. Upgrade the operating system to SUSE Linux Enterprise Server 8.
2. Upgrade to Oracle Database 10g.

**See Also:** For information about upgrading see the Oracle9i Database Migration guide and the Oracle Database Upgrade Guide.

**Installation Documentation Update**
The *Oracle Database Installation Guide for UNIX Systems* and the *Oracle Database Client Installation Guide for UNIX Systems* include an instruction to run the `$ORACLE_HOME/bin/occi_link.sh` script to configure the Oracle C++ Call Interface (OCCI) libraries. This task is not required on zSeries systems.

**Oracle Real Application Clusters Issues**
Review the following sections for information about issues that affect Oracle Real Application Clusters:

- Configuring RAW Partitions for Oracle CRS Files
- Configuring Logical Volumes for Raw Devices
- ASM Instance Clean Up Procedures for Node Deletion
- De-Installing Oracle RAC Software
Configuring RAW Partitions for Oracle CRS Files

If you are formatting ECKD type DASDs to use as RAW partitions for the Oracle CRS files (the Oracle Cluster Registry and the CRS voting disk) you must format the DASDs with a 4 KB block size.

Configuring Logical Volumes for Raw Devices

---

**Note:** On Linux x86 or Linux Itanium systems, raw logical volumes are not supported for CRS or database file storage for RAC installations.

---

On zSeries Linux, you can use raw logical volume manager (LVM) volumes for Oracle CRS and database file storage. You can create the required raw logical volumes in a volume group on either direct access storage devices (DASDs) or on SCSI devices. To configure the required raw logical volumes, follow these steps:

1. If you intend to use DASDs for the volume group, follow these steps:
   a. If necessary, install or configure the shared DASDs that you intend to use for the volume group and reboot the system.
   b. Enter the following command to identify the DASDs configured on the system:

```
# more /proc/dasd/devices
```

The output from this command contains lines similar to the following:

```
0302(ECKD) at ( 94: 48) is dasdm : active at blocksize: 4096, 540000 blocks, 2109 MB
```

These lines display the following information for each DASD:

- The device number (0302)
- The device type (ECKD or FBA)
- The Linux device major and minor numbers (94: 48)
- The Linux device file name (dasdm)

In general, DASDs have device names in the form dasdxxxx, where xxxxx is between one and four letters that identify the device.

- The block size and size of the device
c. From the display, identify the devices that you want to use.

d. If you want to use ECKD type DASDs, enter a command similar to the following to format the DASD, if it is not already formatted:

```
# /sbin/dasdfmt -b 4096 -f /dev/dasd
```

This command formats the DASD with a block size of 4 KB and the compatible disk layout (default), which enables you to create up to three partitions on the DASD.

Alternatively, you could use the `-d ldl` option to format the DASD using the Linux disk layout.

e. If you formatted the DASD with the compatible disk layout, enter a command similar to the following to create a single whole-disk partition on the device:

```
# /sbin/fdasd -a /dev/dasd
```

The device name for the single whole-disk partition for the DASDs is `/dev/dasd1`

---

**Caution:** Formatting a DASD destroys all existing data on the device. Make sure that:

- You specify the correct DASD device name
- The DASD does not contain existing data that you want to preserve

---

**Note:** For the DASDs that you intend to use to store the Oracle CRS files (the Oracle Cluster Registry and the CRS voting disk) you must use a 4 KB block size.

---

2. If you intend to use SCSI devices in the volume group, follow these steps:

a. If necessary, install or configure the shared disk devices that you intend to use for the volume group and reboot the system.

b. To identify the device name for the disks that you want to use, enter the following command:

```
# /sbin/fdisk -1
```

SCSI devices have device names similar to the following:

```
/dev/sd xn
```

In this example, `x` is a letter that identifies the SCSI disk and `n` is the partition number. For example, `/dev/sda` is the first disk on the first SCSI bus.

To include devices in a volume group, you can specify either whole-drive device names or partition device names.
3. Enter a command similar to the following to mark each device that you want to use in the volume group as a physical volume:

```bash
# pvcreate /dev/dasda1 /dev/dasdb1
```

4. To create a volume group named `oracle_vg` using the devices that you marked, enter a command similar to the following:

```bash
# vgcreate oracle_vg /dev/dasda1 /dev/dasdb1
```

5. To create the required logical volumes in the volume group that you created, enter commands similar to the following:

```bash
# lvcreate -L size -n lv_name vg_name
```

In this example:
- `size` is the size of the logical volume, for example 500M
- `lv_name` is the name of the logical volume, for example `orcl_system_raw_500m`
- `vg_name` is the name of the volume group, for example `oracle_vg`

Table 1 lists the number, purpose, size, and suggested logical volume name for the raw logical volumes required for CRS files. Table 2 lists the number, purpose, size, and suggested logical volume name for the raw logical volumes required for database files.

**Table 1 Raw Logical Volumes Required for CRS Files**

<table>
<thead>
<tr>
<th>Number</th>
<th>Size (MB)</th>
<th>Purpose and Sample Logical Volume Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100</td>
<td>Oracle Cluster Registry: ora_ocr_raw_100m</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> You need to create this raw logical volume only once on the cluster. If you create more than one database on the cluster, they all share the same Oracle Cluster Registry (OCR).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If you are upgrading from Oracle9i release 2, you can continue to use the raw device that you used for the SRVM configuration repository instead of creating this new logical volume.</td>
</tr>
<tr>
<td>1</td>
<td>20</td>
<td>Oracle CRS voting disk: ora_vote_raw_20m</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note:</strong> You need to create this raw logical volume only once on the cluster. If you create more than one database on the cluster, they all share the same Oracle CRS voting disk.</td>
</tr>
</tbody>
</table>

**Table 2 Raw Logical Volumes Required for Database Files**

<table>
<thead>
<tr>
<th>Number</th>
<th>Size (MB)</th>
<th>Purpose and Sample Logical Volume Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>500</td>
<td>SYSTEM tablespace: dbname_system_raw_500m</td>
</tr>
<tr>
<td>1</td>
<td>300 + (Number of instances * 250)</td>
<td>SYSAUX tablespace: dbname_sysaux_raw_800m</td>
</tr>
</tbody>
</table>
For example, to create a 500 MB logical volume for the SYSTEM tablespace for a database named rac in the oracle_vg volume group, enter the following command:

```
# lvcreate -L 500M -n rac_system_raw_500m oracle_vg
```

6. On the other cluster nodes, enter the following commands to configure the volume group and logical volumes on those nodes:

   ```
   # vgscan
   # vgchange -a y
   ```

7. To continue, complete the following tasks by following the instructions in the Oracle Real Application Clusters Installation and Configuration Guide:

   a. Map the logical volume devices to raw devices.

   b. Create a raw device mapping file to associate the raw devices with database files.

---

**Table 2 (Cont.) Raw Logical Volumes Required for Database Files**

<table>
<thead>
<tr>
<th>Number of instances</th>
<th>Size (MB)</th>
<th>Purpose and Sample Logical Volume Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of instances</td>
<td>500</td>
<td>UNDOTBSn tablespace (One tablespace for each instance, where n is the number of the instance): dbname_undotbsn_raw_500m</td>
</tr>
<tr>
<td>1</td>
<td>250</td>
<td>TEMP tablespace: dbname_temp_raw_250m</td>
</tr>
<tr>
<td>1</td>
<td>160</td>
<td>EXAMPLE tablespace: dbname_example_raw_160m</td>
</tr>
<tr>
<td>1</td>
<td>120</td>
<td>USERS tablespace: dbname_users_raw_120m</td>
</tr>
<tr>
<td>2*</td>
<td>120</td>
<td>Two online redo log files for each instance (where n is the number of the instance and m is the log number, 1 or 2): dbname_redon_m_raw_120m</td>
</tr>
<tr>
<td>2</td>
<td>110</td>
<td>First and second control files: dbname_control{1</td>
</tr>
<tr>
<td>1</td>
<td>5</td>
<td>Server parameter file (SPFILE): dbname_spfile_raw_5m</td>
</tr>
<tr>
<td>1</td>
<td>5</td>
<td>Password file: dbname_pwdfile_raw_5m</td>
</tr>
</tbody>
</table>

Note: These commands create a device name similar to the following for each logical volume:

```
/dev/vg_name/lv_name
```

For example, to create a 500 MB logical volume for the SYSTEM tablespace for a database named rac in the oracle_vg volume group, enter the following command:

```
# lvcreate -L 500M -n rac_system_raw_500m oracle_vg
```
ASM Instance Clean Up Procedures for Node Deletion

To remove the ASM instances, the delete node procedure requires the following additional steps on UNIX-based systems:

1. If this is the Oracle home from which the per-node listener named LISTENER_nodename runs, then use NetCA to remove this listener and its CRS resources. If necessary, re-create this listener in another Oracle home.

2. If this is the Oracle home from which the ASM instance runs, then enter the following commands to remove the ASM configuration:

   $ srvctl stop asm -n node
   $ srvctl remove asm -n node

3. If you are using a cluster file system for your ASM Oracle home, then run the following commands on the local node:

   $ rm -r $ORACLE_BASE/admin/+ASM
   $ rm -f $ORACLE_HOME/dbs/*ASM*

4. If you are not using a cluster file system for your ASM Oracle home, then run the \texttt{rm} commands listed in the previous step on each node on which the Oracle home exists.

5. Remove \texttt{oratab} entries beginning with \texttt{+ASM}.

De-Installing Oracle RAC Software

To de-install Oracle RAC software in Oracle homes and Oracle CRS homes as described in the \textit{Oracle Real Application Clusters Installation and Configuration Guide}, you must run the Installer on the node from which you performed the installation.

After you de-install CRS, enter the following command to delete the CRS scripts from the system \texttt{runlevel} directories:

$ rm -rf /etc/rc.d/rc*.d/*96init.crs

Oracle CRS Installation Errors Caused by \texttt{stty} Commands

During an Oracle CRS installation, the Installer uses SSH (if available) to run commands and copy files to the other nodes. During the installation, you might see errors similar to the following if a "dot" file on the system (for example, \texttt{.bashrc} or \texttt{.cshrc}) contains \texttt{stty} commands:

\begin{verbatim}
stty: standard input:  Invalid argument
stty: standard input:  Invalid argument
\end{verbatim}

To avoid this problem, Oracle recommends that you modify these files to suppress all output on STDERR, as follows:

- Bourne, Bash, or Korn shell:

  \begin{verbatim}
  if [ -t 0 ]; then
    stty intr ^C
  fi
  \end{verbatim}
C shell:

```bash
test -t 0
if ($status == 0) then
  stty intr ^C
endif
```

**Note:** When SSH is not available, the Installer uses the `rsh` and `rcp` commands instead of `ssh` and `scp`. If there are "dot" files that contain `stty` commands that are loaded by the remote shell, this error can also occur.

---

**Oracle CRS Silent Installation**

If you perform a silent installation of Oracle CRS on multiple nodes, on a system that does not have other Oracle installations, the Installer does not set up the Oracle Inventory correctly.

In this case, after the installation is complete, follow these steps:

1. Run the `orainstRoot.sh` script on a local node.
2. Copy the `oraInventory` directory from the local node to each of the remote nodes.
3. Log in as the `root` user and run the following script on each remote node:
   ```bash
   oraInventory/orainstRoot.sh
   ```

**Oracle CRS and RAC Installation Log File Messages**

The installation log files for CRS and RAC installations might contain messages similar to the following:

```
/bin/tar: .../rootdeletenode: Cannot stat: No such file or directory
/bin/tar: .../rootdelete: Cannot stat: No such file or directory
/bin/tar: .../rootdeinstall: Cannot stat: No such file or directory
```

These messages do not indicate installation problems and can be ignored.

**Using Shared CRS Home or Oracle Home Directories**

For this release, Oracle supports shared CRS home and Oracle home directories on Linux only if they are located on a certified NAS device. This configuration is supported only if you also use the NAS device to store the Oracle database files.

**Note:** Do not locate the CRS home or Oracle home directories on OCFS file system.

---

**Using Network Attached Storage for RAC Installations**

On Linux, you can use an NFS file system on a certified NAS device for storing Oracle software or database files. The file system that you use must have the same mount point path on all cluster nodes. In addition, you must use the following mount options when mounting the NFS file systems:

- Use the `noac` option to disable attribute caching.
- Use the `tcp` option to specify the TCP protocol.
- Verify that the NFS file system and the correct mount options are specified in the /etc/fstab file on every node to ensure that the file system is mounted when each node boots.

For more information about using NAS devices and NFS file systems:
- See Oracle Metalink for information about certified NAS devices
- Contact your NAS vendor for specific recommendations about using the device with Oracle Real Application Clusters
- See Appendix C in the Oracle Database Installation Guide for UNIX Systems for general guidelines about using NAS devices for Oracle Database installations

**Backing Up the Voting Disk After Installing RAC**
After installing Oracle RAC 10g and after ensuring that the system is functioning properly, make a backup of the voting disk. In addition, make a backup of the voting disk contents after you complete any node additions or node deletions and after running any de-installation procedures.

**Remote Undo Tablespaces Do Not Autoextend in RAC Seed Databases**
If you create a RAC database with two or more instances and you choose to create General Purpose, Transaction Processing, or Data Warehouse databases, and if you use a shared cluster file system or Automatic Storage Management (ASM) for database files, then the Database Configuration Assistant (DBCA) creates undo tablespace datafiles with an initial size of 25 MB and AUTOEXTEND ON for the local instance but AUTOEXTEND OFF for remote instances.

You can set AUTOEXTEND ON for undo tablespace datafiles for remote instances after creating a RAC database as follows:

1. Connect to the database instance on the node from which you ran DBCA:
   ```bash
   $ sqlplus "/ AS SYSDBA"
   ```
2. Enter the following command to find the datafile names for UNDOTBS tablespaces for remote instances:
   ```sql
   SQL> SELECT file_name FROM SYS.DBA_DATA_FILES WHERE tablespace_name LIKE 'UNDOTBS%' AND AUTOEXTENSIBLE='NO';
   ```
3. Set AUTOEXTEND ON for the datafiles that you found in the previous step:
   ```sql
   SQL> ALTER DATABASE DATAFILE datafile_name AUTOEXTEND ON;
   ```

**Running Oracle9i RAC with Oracle RAC 10g**
If you are running Oracle9i RAC on the same cluster nodes as Oracle RAC 10g, complete the following steps:

---

**Note:** These steps are required only if you installed Oracle RAC 10g on the same cluster nodes as Oracle9i RAC. If you upgraded from Oracle9i RAC to Oracle RAC 10g, do not complete these steps.

1. Create the following directory:
   ```bash
   $ mkdir -p /etc/ORCLcluster/oracm/lib
   ```
2. Change directory to this directory:
   
   `$ cd /etc/ORCLcluster/oracm/lib`

3. Copy the `/oracle9i_home/lib/libcmdll.so` file to the current directory:
   
   `$ cp /oracle9i_home/lib/libcmdll.so .`

4. On any cluster node, enter commands similar to the following to restart the node applications on all cluster nodes:
   
   `$ORACLE_HOME/bin/svrctl stop nodeapps -n nodename`
   `$ORACLE_HOME/bin/svrctl start nodeapps -n nodename`

   In this example, `$ORACLE_HOME` is the Oracle RAC 10g Oracle home and `nodename` is the name of the node. Repeat the commands for each node in the cluster.

**Other Product Issues**

Review the following sections for information about issues that affect other Oracle products:

- ASM Library Driver and OCFS
- ORA-00600 Error for ASM
- Net Configuration Assistant Help
- Flashback Table or Flashback Analysis
- Oracle Messaging Gateway
- Oracle Internet Directory
- Error When Viewing Period SQL Execution Plan in Korean
- Quick Tour Not Available in Oracle Change Management Pack
- Grid Features
- Network Utilization Metrics Not Displayed
- Generic Connectivity
- Issues Using the ACUCOBOL-GT Compiler with Pro*COBOL
- Building Pro*C Applications if PostgreSQL is Installed
- Support for CONNECTION APPEND in Pro*C/C++
- Installing Enterprise Security Manager
- Full-Text Searching with Oracle Text
- XDK Error Messages
- Oracle Enterprise Manager Buffer Activity Link Errors

**ASM Library Driver and OCFS**

On IBM zSeries based Linux, the ASM library driver (`asmlib`) and Oracle Cluster File System (OCFS) are not currently available.
ORA-00600 Error for ASM
If you are using ASM for database file storage and the ASM instance terminates with an ORA-00600 error, you might see an error message similar to the following in the ASM instance’s alert log file:

ORA-00600: internal error code, arguments: [kfcDel67]

A one off patch will be provided to fix this issue. This issue is tracked with Oracle bug 3473576.

Net Configuration Assistant Help
In the Net Configuration Assistant (NetCA) help, the link to the Select Oracle Context help topic is broken. The text for this topic is as follows:

Directory Usage Configuration, Select Oracle Context
Oracle administrative content has been found in more than one location in the directory. Oracle administrative content is stored in an Oracle Context, a subtree in the directory that stores Oracle entries.

From the list, select or enter the location you want to use as the default Oracle Context location from which this computer will access Oracle entries, such as connect identifiers.

Flashback Table or Flashback Analysis
If a user invokes the Flashback Table or Flashback Analysis operation, and that user has FLASHBACK ANY TABLE privileges but does not have specific flashback privileges on the objects that flashback is invoked on and does not have DBA privileges, then the following errors may occur:

ORA-02002: error while writing to audit trail
ORA-00600: internal error code, arguments: [kzasps1], [4], [47], [], [],

To fix this problem, as SYSDBA, grant the user FLASHBACK privilege on the objects that are referred to in the FLASHBACK TABLE statement and then invoke the flashback operation. For example:

SQL> GRANT FLASHBACK ON SCOTT.EMP_1 TO user1;

This issue is tracked through Oracle bug 3403666.

Oracle Messaging Gateway
Oracle Messaging Gateway is not currently supported on IBM zSeries based Linux systems.

Oracle Internet Directory
This release includes the Oracle Internet Directory (OID) client tools, but it does not include OID server components. OID server components are included with Oracle Application Server 10g. If you require the OID server tools for Oracle Database components, then run them from an Oracle Application Server 10g installation.

The OID client tools include:
- LDAP command-line tools
- Oracle Internet Directory SDK
Oracle Directory Manager

The OID server components include the following servers and tools for starting and stopping them:

- Directory server
- Directory replication server
- Directory integration server

Error When Viewing Period SQL Execution Plan in Korean

Viewing the execution plan of a Period SQL in Korean causes an internal server error. This problem is unique to Korean; it does not reproduce in Japanese or Chinese. The only workaround currently available is to run the product in a language other than Korean when you need to view this page.

Quick Tour Not Available in Oracle Change Management Pack

Quick Tour is not available in Oracle Change Management Pack. If you try to run it, then an error results.

Grid Features

*Oracle Database New Features* for Oracle Database 10g release 1 (10.1) lists two Grid features that are not available in the first release of Oracle Database 10g; Resonance and Transparent Session Migration. These features will be available in a future release.

Network Utilization Metrics Not Displayed

The Oracle Enterprise Manager Grid Control or Database Control should display the following network utilization metrics for each network interface:

- Network Interface Combined Utilization (%)
- Network Interface Read Utilization (%)
- Network Interface Write Utilization (%)

If these metrics are not displayed for a particular network interface, create the $ORACLE_HOME/sysman/config/network_speed file and enter the network interface name and speed in the file as follows. In this example, `interface` is the network interface name and `speed` is the speed of the interface in megabits per second (Mbps):

```
interface_name speed
```

For example, if the `eth0` network interface does not display metrics, create the $ORACLE_HOME/sysman/config/network_speed file and enter the following, where 100 is the network speed in Mbps:

```
et0 100
```

Generic Connectivity

Generic connectivity (hsodbc) is not supported on IBM zSeries based Linux systems.
Issues Using the ACUCOBOL-GT Compiler with Pro*COBOL

Note the following issues if you are using the ACUCOBOL-GT compiler with Pro*COBOL:

- To make the Pro*COBOL demonstrations with the ACUCOBOL-GT compiler, you must set the COBMODE environment variable to ACU, for example:
  
  ```
  $ COBMODE=ACU ; export COBMODE
  ```

- Fetching BLOB data with the 32-bit ACUCOBOL-GT compiler is not currently supported. This issue is tracked with Oracle bug 3868181.

- Using dynamic SQL with the 64-bit ACUCOBOL-GT compiler is not currently supported. This issue is tracked with Oracle bug 3733968.

- To run dynamically loaded Pro*COBOL programs with the ACUCOBOL-GT compiler, you must use the `$ORACLE_HOME/bin/runcbl` executable (or `runcbl32` for 32-bit programs).
  
  Before running these programs, you must copy the `runcbl.acl` licence file from the ACUCOBOL-GT bin directory to the `$ORACLE_HOME/bin` directory.

Building Pro*C Applications if PostgreSQL is Installed

If the `postgresql-devel` package is installed on the system, add the following directory to the beginning of the `sys_include` parameter in the `$ORACLE_HOME/precomp/admin/pcscfg.cfg` file before building Pro*C applications:

```
$ORACLE_HOME/precomp/public
```

If you do not make this change, you may encounter errors similar to the following when linking the applications:

```
/tmp/ccbXd7v6.o(.text+0xc0): In function `drop_tables':
: undefined reference to `sqlca'
```

Support for CONNECTION APPEND in Pro*C/C++

Using the COLLECTION APPEND statement with the VARRAY collection type in Pro*C/C++ is not currently supported. This issue is tracked with Oracle bug 3904774.

Installing Enterprise Security Manager

To install Enterprise Security Manager (ESM), install Oracle Client and choose the Administrator installation type.

Full-Text Searching with Oracle Text

For full-text searching with Oracle Text, you must create XML tables manually.

If you will need to use Oracle Text indexes for text-based `ora:contains` searches over a collection of XML elements, then do not use XML schema annotation `storeVarrayAsTable="true"`. This annotation causes element collections to be persisted as rows in an Index Organized Table (IOT). Oracle Text does not support IOTs.

To be able to use Oracle Text to search the contents of element collections, set parameter `genTables="false"` during schema registration. Then create the
necessary tables manually, without using the clause ORGANIZATION INDEX OVERFLOW. The tables will then be heap-organized instead of index-organized (IOT), as shown in the following example:

```sql
CREATE TABLE PurchaseOrder of XMLTYPE
    XMLSCHEMA http://localhost:8080/home/SCOTT/poSource/xsd/purchaseOrder.xsd
    ELEMENT "PurchaseOrder"
    VARRAY "XMLDATA"."ACTIONS"."ACTION"
        STORE AS TABLE ACTION_TABLE ((PRIMARY KEY (NESTED_TABLE_ID, ARRAY_INDEX)))
    VARRAY "XMLDATA"."LINEITEMS"."LINEITEM"
        STORE AS TABLE LINEITEM_TABLE ((PRIMARY KEY (NESTED_TABLE_ID, ARRAY_INDEX)));
```

**XDK Error Messages**

XDK error messages are available at the XML Technology Center on the OTN Web site:

http://www.oracle.com/technology/tech/xml/doc/production10g/Javaerrormsgs.html

**Oracle Enterprise Manager Buffer Activity Link Errors**

If you see the Unable to obtain data for metric Buffer Activity error, then enter the following command as the root user:

```bash
# ln -s /usr/lib64/sa /usr/lib/sa
```

This issue is tracked through Oracle bug 3939313.

**Documentation Accessibility**

Our goal is to make Oracle products, services, and supporting documentation accessible, with good usability, to the disabled community. To that end, our documentation includes features that make information available to users of assistive technology. This documentation is available in HTML format, and contains markup to facilitate access by the disabled community. Standards will continue to evolve over time, and Oracle is actively engaged with other market-leading technology vendors to address technical obstacles so that our documentation can be accessible to all of our customers. For additional information, visit the Oracle Accessibility Program Web site at

http://www.oracle.com/accessibility/

**Accessibility of Code Examples in Documentation**

JAWS, a Windows screen reader, may not always correctly read the code examples in this document. The conventions for writing code require that closing braces should appear on an otherwise empty line; however, JAWS may not always read a line of text that consists solely of a bracket or brace.