

Oracle Database Lite 10<sup>g</sup>  
What's the Difference with  
other Oracle Database  
Editions?

*An Oracle White Paper*  
*April 2004*

# What's the Difference with other Oracle Database Editions?

## **INTRODUCTION**

Oracle has several editions of database solutions – Enterprise Edition, Standard Edition, Standard Edition One, and Personal Edition. These solutions range from a complete enterprise-scale database to a full-featured database edition for individuals. For information on the database editions, please see:

[http://www.oracle.com/database/index.html?product\\_editions.html](http://www.oracle.com/database/index.html?product_editions.html).

Oracle Database Lite is another edition, however the Oracle Database Lite Edition functions as a feature for either Oracle Database Enterprise Edition or Oracle Database Standard Edition. Oracle Database Lite does not replace other database editions. Oracle Database Lite is designed to make your existing Oracle Database mobile.

On occasion, projects attempt to use Oracle Database Lite as full-scale database, such as Personal Edition. This paper attempts to explain the differences between Oracle Database Lite and other Oracle Database Editions to insure the correct version is used in your project.

As different as Oracle Database Lite is from other Oracle Database Editions, both products come from the world leader in database software and benefit from Oracle's 20+ years of experience. All of Oracle's databases solutions have the ability to replicate with Oracle data servers using Oracle's proven Advanced Replication technology. This includes advanced features such as subquery subsetting and conflict detection & resolution – all manageable from an intuitive graphical user interface.

## **ORACLE DATABASE PERSONAL EDITION**

Oracle Database Personal Edition 10g is a full featured version of Oracle Database 10g for single user installations that require full compatibility with the rest of the Oracle Database family. It is especially popular with consultants, developers, and students. Consultants and developers have found that Oracle Database Personal Edition is ideal for allowing them to work independently

while still giving them the opportunity to easily integrate their work with others. Students and instructors have found Oracle Database Personal Edition to be a useful way to introduce fundamental database concepts. Oracle Database Personal Edition has also proven popular with users who need a powerful personal data warehouse for their own decision support and data analysis.

### **ORACLE DATABASE LITE**

Oracle Database Lite was developed from the ground up to be a small footprint, zero-administration, yet powerful mobile or embedded database. Because it requires no administration and has an extremely lightweight footprint, it is ideal for developing applications for mass deployment to thousands of mobile or disconnected end-users. Oracle Database Lite is not a full-featured Oracle Enterprise Edition database. It is specifically optimized for mobile and embedded environments. Despite the small footprint, Oracle Database Lite still supports most large-DBMS features, such as transactions, row-level locking, SQL-92, and Java stored procedures and triggers.

A classic implementation of Oracle Database Lite is in a field technician application. For example, Company X has an Oracle Database Standard Edition in their datacenter. However, Company X field technicians are mobile sixty percent of the time without an internet connection. Oracle Database Lite allows Company X to subset the necessary field technician data and deploy the data to the technicians' Laptop or PDA. The field technician is now able to be fully functional and productive while offline and while mobile. If the Laptop or PDA is ever "connected", Oracle Database Lite will quickly and securely synchronize the data, and changes, with the Oracle Database Standard Edition in the datacenter. Oracle Database Lite is optimized for these types of scenarios and can efficiently scale to thousands of users/devices.

### **FEATURE COMPARISON**

Oracle Database Lite includes two main components. 1) The client component which runs on the mobile device or laptop to store the application data. 2) The server component (Mobile Server) to manage the synchronization and deployment of mobile applications. The following chart includes a detailed side-by-side comparison of Oracle Database and the client component of Oracle Database Lite.

Product Feature	Oracle Database	Oracle Database Lite
Database size	?	4 GB
Client platform support	Supports many platforms. No mobile devices.	Palm, , Pocket PC, Win32 and Linux.
Client hardware requirements	166 MHz, 256 MB RAM, 4.5 GB Disk	1 MB RAM, 5 MB Disk(You need some RAM for shared memory. I would say at least 16MB)
Maximum connections		32 sessions
Tables, views, indexes	X	X
Security (Users, Roles, Privileges)	X	Predefined Roles:DBA, ADMIN, RESOURCE  SELECT, INSERT, UPDATE, DELETE privileges are supported
Database Links	X	
Distributed Updates	X	
Distributed Queries	X	
Two-Phase Commit	X	
PL/SQL Support	X	
PL/SQL Stored procedures	X	
PL/SQL Triggers	X	
PL/SQL Indexes	B-Tree indexes, Bitmap indexes, Partitioned indexes, Function-based indexes, Domain indexes	We support B-Tree indexes. Do not support PL/SQL Indexes

PL/SQL Tables	Relational tables, Object tables, Temporary tables, Partitioned tables, External tables, Index organized tables	
PL/SQL Triggers	BEFORE triggers, AFTER triggers, INSTEAD OF triggers, Database Event triggers	
PL/SQL Procedures	PL/SQL statements, Java methods, third-generation language (3GL) routines	
PL/SQL Arrays	Supported	
Java Support	Yes	X
Java Stored Procedures	Yes	X
Java Triggers	Yes	X
Multi-Column Indexing	X	X
Outer Join	X	X
Bi-directional Replication (SQL*Net)	X	X (Ours' is not SQL*Net)
Bi-directional Replication (OMA)		X
Internet replication		X
File-based replication		X
Deployment Toolkit		X
Drag and Drop Replication	X	X
Required RAM	32 MB	16 MB
Suggested RAM	48 MB	32 MB
Minimum Hard Disk space	85 MB	5 MB

Database name length	8	>8
Column name length	30	30
Index name length	30	30
table name length	30	30
view name length	30	30
stored procedure name length	30	30
Max columns per index	32	32
max columns per table	1000	1000
max table row length	255000	
max query size	16777216	
Recursive subqueries	64	
max char() size	2000	4096
max varchar() size	4000	4096
D/B Administration Tool	Oracle Navigator	Oracle Navigator(Does it work?)
Read-Only Media Support		X
Object Database System		X
Oracle Forms support	X	

## ORACLE LITE DBMS LIMITS

The following section includes a list of the Oracle Database Lite DBMS limits. Limits exist on several levels in the database. There is usually a hard-coded limit in the database that cannot be exceeded. The actual value realized may be further restricted due to operating system resources limits.

### Datatype Limits

Datatypes	Limit	Comments
BFILE	maximum size: 2GB	A Bfile is stored as a

		LOB
	Maximum size of file name: no database imposed limit	
	Maximum size of directory name: no database imposed limit	
BLOB	2 GB maximum	Already covered above
CLOB	2 GB Maximum	
Literals	No Limit	
LONG	2 GB maximum	A table can have any number of long columns
NUMBER	operating system limit	NUMBER is converted to double precision number on native platform
NUMBER (p, s)	999...(38 9's)x 10 <sup>125</sup> maximum -999...(38 9's)x 10 <sup>125</sup> minimum	maximum precision of 38 decimal digits
RAW	???	

### Physical Database Limits

Item	Limit	Comments
Database Block Size	4096 bytes	Fixed Size
Database File	1 database file per catalog	An application can open any number of

Database File Size	4 GB	catalogs Affected by Operating System. Maximum file size allowed by operating system
Max Object or Row Length	4040	When an object (row) exceeds this length it is converted into a binary long object. This means UNION will not work on this table.
DSN Name	31 bytes (31 US chars)	Limit is 31 bytes
Database Path Name	255 bytes	Say for 5.0.2.x.x it is limited to 129 bytes
Database filename	252 bytes	For 5.0.2.x.x it is limited to 129 bytes.

---

### Logical Database Limits

Item	Limit	Comments
Indexes	Unlimited	unlimited
Columns	table	1000
	index	32 columns maximum
Constraints	maximum per column	unlimited
Nested Queries	maximum number	unlimited
Rows	maximum number per table	no limit
SQL Statement Length	maximum length of statements	unlimited, particular tools may impose lower limits

---

### Process / Runtime Limits

Shared Memory	128 MB Maximum	
Cache	64 4K Blocks default	Used for caching DB pages



Oracle Database Lite  
Kalle Radage  
kalle.radage@oracle.com  
April 2004

Oracle Corporation  
World Headquarters  
500 Oracle Parkway  
Redwood Shores, CA 94065  
U.S.A.

Worldwide Inquiries:  
Phone: +1.650.506.7000  
Fax: +1.650.506.7200  
[www.oracle.com](http://www.oracle.com)

Oracle is a registered trademark of Oracle Corporation. Various product and service names referenced herein may be trademarks of Oracle Corporation. All other product and service names mentioned may be trademarks of their respective owners.

Copyright © 2004 Oracle Corporation  
All rights reserved.