Oracle 12c New Features

- In-Memory Database / Big Memory Machine
  - Oracle OpenWorld Keynote
- Pluggable Database
  - Webcast (from Oracle)
- Lab#3 Pluggable Database Lab
- SQL Pattern Matching
  - Webcast (from Oracle)

500 New Features

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Oracle Database Technology Changes

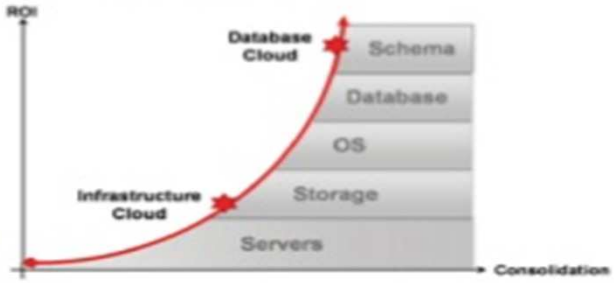
2013 • Oracle 12c
2012 • Oracle Big Machine
2011 • Oracle in the Cloud
2009 • Oracle acquired Sun, MySQL
2008 • Oracle Database Machine (Exadata)
2007 • Oracle11G R1 – Grid Computing
2004 • Oracle10G – Grid Computing
2002 • Collaboration, Linux
2001 • Oracle9i
2000 • Wireless
1999 • Oracle8i
1998 • WEB database
1997 • Oracle8
1996 • Universal Server
1995 • "Smart Client" Applications
1994 • Multi-Media Server Database
1993 • GUI Toolset
1991 • Parallel Server Database
1990 • Client/Server Packaged Applications
1989 • OLTP Support
1988 • Unix Relational Financial Applications
1987 • Integrated Case & 4GL Toolset
1986 • Client/Server Database
1983 • Oracle is Oracle
1979 • Commercial SQL Database

Database for the Cloud

- Database-as-a-Service (DBaaS): Gives users access to databases running on a cloud computing platform wirh Oracle Database 12c.

Key Requirements

- Transparent – no changes to applications
- Secure - isolated data container
- Controlled – global and local resource management
- Agile - rapid provisioning & cloning, capacity on demand
- Low cost
  - Manage many as one
  - Efficient use of hardware resources
  - Native performance and scalability

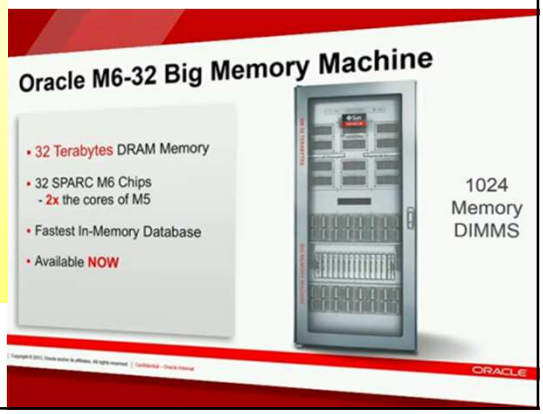


In-Memory DB & Big Memory Machine

- Virtually every existing application that runs on top of the Oracle database will run dramatically faster by simply turning on the new In-Memory feature.

"Our customers don't have to make any changes to their applications whatsoever; they simply flip on the in-memory switch, and the Oracle database immediately starts scanning data at a rate of billions or tens of billions of rows per second."

- Larry Ellison, CEO, Oracle

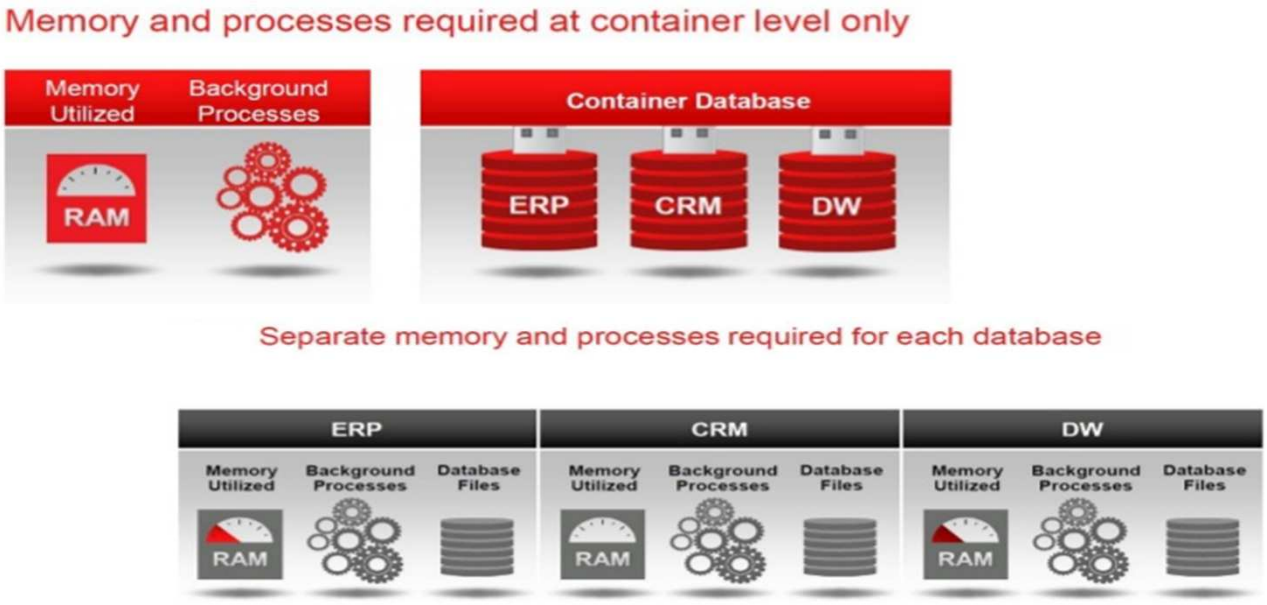


Oracle Database 12c Pluggable Database

There are two types of instances: CBD and PDB.

- The **CDB** (Container Database) is the kind of body that can nurture others within your setup.
- The **PDB** (Pluggable Database) is an embedded database that is still the classic database instances that we know in previous versions to 12c.
- A CDB can absorb many (252) PDB instances, in order to consolidate and streamline administration and save resources at the hardware level.
- The idea is that we can manage many database instances as if they were one PDB.

New Pluggable Database Architecture



Oracle 12c Pluggable Database

- Oracle Database 12c has arrived and with it comes the opportunity to plug into the cloud with a multitenant architecture that lowers cost, increases agility, and minimizes risk.
- With Oracle Database 12c you can consolidate and compress databases at a higher density than ever before.
- In this webcast, you will learn how Oracle Database 12c can help your organization save time and money through:
  - Simplifying database consolidation
  - Redacting sensitive data
  - Improving application continuity
  - Automatically compressing and tiering data

SQL Pattern Matching

- Recognizing patterns in a sequence of rows has been a capability that was widely desired, but not possible with SQL until Oracle 12c.
- Pattern matching in SQL is performed using the MATCH_RECOGNIZE clause. MATCH_RECOGNIZE enables you to do the following tasks:
  - Logically partition and order the data that is used in the MATCH_RECOGNIZE clause with its PARTITION BY and ORDERBY clauses.
  - Define patterns of rows to seek using the PATTERN clause of the MATCH_RECOGNIZE clause. These patterns use regular expression syntax, a powerful and expressive feature, applied to the pattern variables you define.
  - Specify the logical conditions required to map a row to a row pattern variable in the DEFINE clause.
  - Define measures, which are expressions usable in other parts of the SQL query, in the MEASURES clause.

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