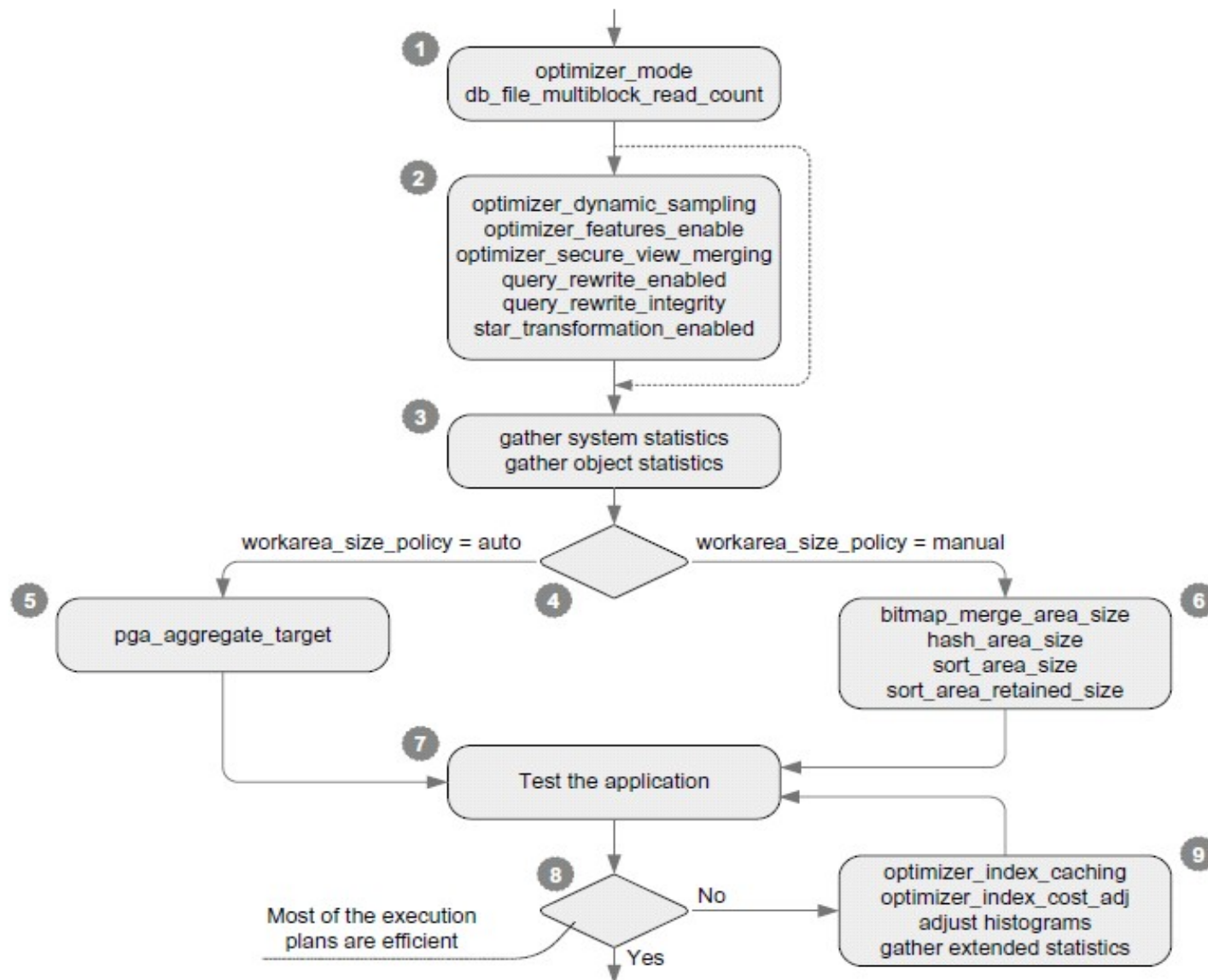




# Execution Plan

# Optimizer Configuration



# *EXPLAIN PLAN*

- EXPLAIN PLAN is a DML statement
- EXPLAIN PLAN statement just insert rows into plan table
- Plan table
  - 9i: `/%ORACLE_HOME  
%/RDBMS/ADMIN/utlxplan.sql`
  - 10g: public synonym of SYS.PLAN\_TABLE\$  
`select *  
from all_synonyms  
where owner='PUBLIC'  
and synonym_name='PLAN_TABLE';`

# *Dynamic Performance Views*

- V\$SQL\_PLAN
- V\$SQL\_PLAN\_STATISTICS
- V\$SQL\_WORKAREA
- V\$SQL\_PLAN\_STATISTICS\_ALL

# *Display PLAN\_TABLE output*

- utlxpls.sql: 使用 DBMS\_XPLAN package
- utlxplp.sql: 使用 DBMS\_XPLAN package
- DBMS\_XPLAN package

# *V\$SESSION and Cursor*

- 10g 之後 V\$SESSION 有記錄 sql\_id, sql\_child\_number 這些欄位
- 如何利用 V\$SESSION 的 sql\_id, sql\_child\_number
  - Using V\$SQL and V\$SQL\_PLAN related dynamic performance views 查詢相關資訊和 execution plan
  - DBMS\_XPLAN.display\_cursor( sql\_id, child\_number )

## *sql\_id and child\_number*

- sql\_id: 以前是找 hash\_value 和 address
  - 除非 CURSOR\_SHARING 參數有變動，否則即使只有一個空白的差異的 sql statement 也會產生不同的 sql\_id
- child\_number: sql\_id 相同 child\_number 不同的狀況
  - 不同 schema 有相同名稱的物件而且 sql statement 一樣
  - 執行兩次相同 sql statement 之間，執行會影響 execution plan 的變動（如 optimizer\_mode）

# 本機測試的方便指令

- Flush shared pool ( 因為 Libaray Cache, Dictionary Cache 都在 Shared Pool)
  - ALTER SYSTEM FLUSH SHARED\_POOL;

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# *Reference*

- Oracle 10g Performance Tuning Guide
- Oracle: SQL Tuning Workshop student guide
- Troubleshooting Oracle Performance
- Expert Oracle Practice