

测试Oracle在不同系统中的IO能力 PDF转换可能丢失图片或格式，建议阅读原文

https://www.100test.com/kao_ti2020/143/2021_2022__E6_B5_8B_E8_AF_95Orac_c102_143180.htm 初始化参

数db_file_multiblock_read_count影响Oracle在执行全表扫描时一次读取的block的数量. db_file_multiblock_read_count的设置要受OS最大IO能力影响，也就是说，如果你系统的硬件IO能力有限，即使设置再大的db_file_multiblock_read_count也是没有用的。理论上，最大db_file_multiblock_read_count和系统IO能力应该有如下关系： $\text{Max}(\text{db_file_multiblock_read_count}) = \text{MaxOsIOsize}/\text{db_block_size}$ 当然这

个 $\text{Max}(\text{db_file_multiblock_read_count})$ 还要受Oracle的限制，目前Oracle所支持的最大db_file_multiblock_read_count 值为128.

我们可以通过db_file_multiblock_read_count来测试Oracle在不同系统下，单次IO最大所能读取得数据量：

```
$ sqlplus "/ as sysdba"SQL*Plus: Release 10.1.0.2.0 - Production on Wed Aug 11 23:43:52 2004Copyright (c) 1982, 2004, Oracle. All rights
```

```
reserved.Connected to:Oracle Database 10g Enterprise Edition
```

```
Release 10.1.0.2.0 - 64bit ProductionWith the Partitioning, OLAP
```

```
and Data Mining optionsSYS AS SYSDBA on 11-AUG-04 >show
```

```
parameter read_countNAME TYPE
```

```
VALUE-----
```

```
-----db_file_multiblock_read_count integer
```

```
16SYS AS SYSDBA on 11-AUG-04 >create tablespace dfmbrc 2
```

```
datafile /opt/oracle/oradata/eygle/dfmbrc.dbf 3 size 20M extent
```

```
management local uniform size 2M.Tablespace created.SYS AS
```

```

SYSDBA on 11-AUG-04 >create table t tablespace dfmbrc as 0select
* from dba_objects.Table created.SYS AS SYSDBA on 11-AUG-04
>insert into t 0select * from t.9149 rows created.SYS AS SYSDBA on
11-AUG-04 >/18298 rows created.SYS AS SYSDBA on 11-AUG-04
>/36596 rows created.SYS AS SYSDBA on 11-AUG-04
>commit.Commit complete.SYS AS SYSDBA on 11-AUG-04 >alter
session set db_file_multiblock_read_count=1000.Session
altered.SYS AS SYSDBA on 12-AUG-04 >show parameter
read_countNAME TYPE
VALUE-----
-----db_file_multiblock_read_count integer
128SYS AS SYSDBA on 11-AUG-04 >alter session set events 10046
trace name context forever,level 12.Session altered.SYS AS SYSDBA
on 11-AUG-04 >alter system flush buffer_cache.System altered.SYS
AS SYSDBA on 11-AUG-04 >0select count(*) from t.
COUNT(*)----- 73192SYS AS SYSDBA on 12-AUG-04
>@gettraceTRACE_FILE_NAME-----
-----/opt/oracle/soft/eygle_or
a_24432.trc$ cat /opt/oracle/soft/eygle_ora_24432.trc|grep
scaWAIT #26: nam=db file scattered read ela= 18267 p1=10 p2=10
p3=128WAIT #26: nam=db file scattered read ela= 8836 p1=10
p2=138 p3=127WAIT #26: nam=db file scattered read ela= 8923
p1=10 p2=265 p3=128WAIT #26: nam=db file scattered read ela=
8853 p1=10 p2=393 p3=128WAIT #26: nam=db file scattered read
ela= 8985 p1=10 p2=521 p3=128WAIT #26: nam=db file scattered
read ela= 8997 p1=10 p2=649 p3=128WAIT #26: nam=db file

```

scattered read ela= 9096 p1=10 p2=777 p3=128WAIT #26: nam=db
file scattered read ela= 583 p1=10 p2=905 p3=12\$ 我们可以看到，
在以上测试平台中，Oracle最多每次IO能够读取128个Block，
由于block_size为8k,也就是每次最多读取了1M数据. 系统平台
为: \$ uname -aSunOS billing 5.8 Generic_108528-23 sun4u sparc
SUNW,Ultra-4 当然具体的，Oracle一次IO能读取多少block还
和很多因素有关，比如存储是否连续，磁盘是否经过条带等
方式划分，并且Oracle的单次IO读取不能跨越Extent边界等.某
些平台还和操作系统的参数设置有关. 大家可以测试一下不同
的平台，Oracle的单次IO最多可以读取的Block数量. 100Test 下
载频道开通，各类考试题目直接下载。详细请访问
www.100test.com