

## Merge Join Cartesian Problem

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In some cases queries hitting large tables will under going Merge Join Cartesian.

### Reasons for Merge Join Cartesian:

There are lot of reasons for a query to hit Merge Join Cartesian. Some implies to us are

1. For example a table having almost 42 million records and the table reaches its threshold some times improper queries may tend to choose Merge Join Cartesian.
2. Same queries leads to Merge Join Cartesian when there is a database versions upgrade.
4. When Stats change.
5. Missing joins.

### Small test to simulate Merge Join Cartesian on Jamp2.

Execute the below procedure for RC = S2AX430 the process hang for lot of time even for single RC.

```
Exec JAM.fix_Jam_Mecs_Prc('N',200707,'S2AX430','S2AX430');
```

It is taking 90% of Activity

Detail for Selected 5 Minute Interval

Start Time Sep 26, 2007 3:01:37 PM

Activity (%)	SID	User	Program	Service	Plan Hash Value
100.00	2173	JAM	sqlplusw.exe	SYS\$USERS	3498701652



Same procedure with a different RC = S2AX400 run with out merge Cartesian join  
JAM.fix\_Jam\_Mecs\_Prc('N',200707,'S2AX400','S2AX400');

**Conclusions :** Queries runs fines 98% but some times with a certain set of data it is going to Merge Join Cartesian.

**Impacts:** Merge join Cartesian consumes lot of CPU and Memory. I will impact over all performance of the system. The impact will be more if this hit in job or any batch process.

Few examples with this problem

[http://www.dba-oracle.com/t\\_merge\\_join\\_cartesian.htm](http://www.dba-oracle.com/t_merge_join_cartesian.htm)  
<http://www.websrvrvertalk.com/archive151-2006-10-1690750.html>

**Resolutions:** Manually changing queries. Force different plan of indexes in the Query can avoid Merge join Cartesian

**Precautions:** Any thing dealing large tables should be little be cautious .Watch for quires in the big tables like

```
FROM JAM_EMPLOYEES E
     ,JAM_TME_REPORTS TR
     ,JAM_TME_REPORT_LINES TRL
WHERE .....
.....
.....

AND EXISTS (SELECT 'x' FROM JAM_EXCEPTION_CODES
              WHERE EC_CODE = TRL.EC_CODE AND
                    EC_LENT_ID = TRL.EC_LENT_ID AND
                    EC_CODE NOT LIKE 'RED%' AND
                    EXCEPTION_TYPE LIKE 'OT%' AND
                    EXCEPTION_TYPE <> 'OTA');
```