

Tuning PGA for Indexing

Sometimes Oracle needs a bit of
help from the DBA



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Index generation and PGA

- Creating an index means sorting data
 - Sorting is in PGA memory – if possible
 - Temporary space used when PGA is inadequate
- Indexing may be the slowest part of an import
- Default PGA management is AUTO
 - Since release 9
 - Far superior to the old MANUAL mechanism
 - PGA passed to and reclaimed from sessions

The problem and solution

- The auto PGA algorithm limits the max for a session
 - `_pga_max_size=200m`
 - Can be changed for the instance – not for a session
 - Many gigabytes of data cannot be sorted in this
- **Revert to manual space management**
 - For your indexing session only
 - Will not impact on other users
 - Can speed up index creation hugely

To conclude

- Index generation can be very slow
 - Impacts on system availability: constraints, table locks
 - Often a major issue for Data Pump imports
- The automatic PGA is usually very good
- Maybe not for some memory intensive operations
 - Index generation
 - Parallel joins, large aggregations
- Manual PGA management is sometimes better

Contact

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