ORACLE ADVANCED COMPRESSION

ORACLE® 11g
DATABASE

- Reduces database storage requirements and associated costs
- Compresses transaction processing and data warehousing application tables
- Compresses structured, unstructured and backup data
- Cascades storage savings throughout the data center

Every organization is faced with the challenge of managing rapid data growth, and reducing IT costs while maintaining the highest levels of performance and availability. Advanced Compression in Oracle Database 11g not only reduces disk space requirements, it also improves application performance and enhances memory and network efficiency. In addition, it is completely application transparent and can be used with any packaged or custom application without any code changes.

Data Volume Upsurge

We are witnessing an explosion in data volumes as the average size of databases triples every two years. Even though the cost of storage has been declining, enormous growth in the volume of data that needs to be retained online makes storage one of the biggest elements in IT budgets. In addition, application scalability and performance must continue to meet the demands of the business – even as data volumes continue to grow.

Oracle Database 11g introduces Advanced Compression to help organizations cope with these challenges.

Advanced Compression

Oracle Database 11g's Advanced Compression offers a comprehensive set of compression capabilities to help organizations maximize resource utilization and reduce costs. It allows IT administrators to significantly reduce their overall database storage footprint by enabling compression for all types of data – be it regular structured data (numbers, characters), unstructured data (documents, spreadsheets, XML and other files), or backup data. While storage cost savings are an obvious tangible benefit of compression, the innovative Advanced Compression technologies in Oracle Database 11g are designed to reduce resource requirements and costs for all components of your IT infrastructure, including memory, backup media and network bandwidth.

New Compression Features

New compression features in Oracle Database 11g include:

- Online Transaction Processing (OLTP) Table Compression – allows structured or relational data to be compressed during all types of data manipulation operations, including regular INSERT or UPDATE.   This new feature leverages a sophisticated and intelligent algorithm that minimizes compression overhead during write operations, thereby making it viable for all application

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workloads. Additionally, it significantly improves performance of queries by reducing disk I/Os and improving memory efficiency.

- Unstructured Data Compression and De-duplication: SecureFiles in Oracle Database 11g introduces a high performance and powerful infrastructure for managing unstructured data, such as documents, videos, images, etc. Advanced Compression includes a number of features that minimize the storage requirements for SecureFiles data:

    SecureFiles Compression – compresses the unstructured or file data stored within the database. Two levels of compression are available such that you can get higher compression by using additional system (CPU) resources.

    SecureFiles De-duplication – intelligent technology that eliminates duplicate copies of SecureFiles. Besides reducing storage footprint, this feature dramatically improves the performance of write and copy operations involving duplicate content.

- Backup Data Compression – The storage requirements for maintaining database backups and backup performance are directly impacted by database size. To that end, Advanced Compression includes compression for backup data when you employ Recovery Manager (RMAN) or Oracle Data Pump for database backups.

- Network Traffic Compression – Advanced Compression offers the capability to compress Oracle Data Guard (standby databases) redo data as Data Guard resolves redo gaps. This improves the efficiency of network utilization and speeds up gap resolution up to two times.

Benefits

- Up to 3x or higher reduction in storage costs. These savings also extend to test, development, backup and disaster recovery environments further magnifying the cost savings.

- No adverse impact on query performance, as queries read the compressed version of data directly without having to decompress it. In fact, query performance may improve due to improved disk scan rate and reduction in number of I/Os.

- Enhanced memory efficiency, as data in memory is in a compressed format. This allows more data to be stored in memory and reduces number of I/Os, which may improve performance.

- Enhanced Data Guard and Real Application Clusters (RAC) performance due to reduction in network/interconnect traffic.

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