# Oracle Advanced Compression

Oracle Database Advanced Compression provides a comprehensive set of compression capabilities to maximize storage utilization, reduce costs and improve performance. Although storage cost savings and optimization across servers is the most tangible benefit, all of the features with Advanced Compression are designed to improve performance across components of your IT infrastructure, including memory, network bandwidth and storage.

## KEY FEATURES

- Reduces database storage requirements and associated costs
- Typically improves query performance
- Compresses OLTP and data warehousing application tables
- Data in memory remains in compressed format
- Compresses structured, unstructured, index, backup, network and Data Guard redo log transport data
- Heat Map collects segment/block level data usage information used to define Automatic Data Optimization compression and storage tiering policies
- Cascades storage savings throughout the data center
- Reduces the size of all supported unique and non-unique indexes -- while still providing efficient access to the indexes
- Can be used with any type of application without application changes
- Reduces the size of the session data unit (SDU) transmitted over a data connection
- Reduces the cost of storing and accessing historical data

## Oracle Advanced Compression

- **Heat Map.** Collects data usage information at the block and segment levels – when used with Automatic Data Optimization Oracle Database can automate compression and storage policies based on the usage of the data -- reducing storage costs, improving performance and optimizing storage.

- **Automatic Data Optimization.** Enables organizations to create policies that implement compression and storage tiering automatically. ADO policies define conditions and corresponding actions to be applied to specific objects to automate Information Lifecycle Management (ILM).

- **Advanced Row Compression.** Enables table data to be compressed during all types of data manipulation operations, including DML INSERT and UPDATE operations -- intelligent algorithm minimizes compression overhead during write operations, thereby making compression viable for both data warehouse and OLTP workloads.

- **Advanced LOB Compression and Deduplication.** Provides compression and deduplication for SecureFiles LOBS. SecureFiles is a high performance, and powerful, infrastructure for managing unstructured data such as images, documents, videos and more.

  - Advanced LOB Compression. Compresses unstructured data
  - Advanced LOB Deduplication. Eliminates duplicate copies of unstructured data

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

- **Data Guard Redo Transport Compression.** Enables the compression of Oracle Data Guard (primary to standby database) redo data as it is transmitted over the network.

- **Advanced Index Compression.** Reduces the size of all supported unique and non-unique indexes- automatically chooses the right compression per index block. Advanced Index Compression provides significant space savings while also improving performance for queries that are executed using indexes.

- **Advanced Network Compression.** Compresses network data to be transmitted at the sending side and then uncompressed at the receiver to reduce the network traffic.

- **Storage Snapshot Optimization.** Using the RECOVER ... SNAPSHOT TIME capability storage snapshots taken without the database in backup mode can be recovered in one step, whether to the current time or a specific point-in-time after the snapshot was taken, without any additional procedures.

- **Exadata Flash Cache Compression (Exadata only).** Dynamically increases the logical capacity of the flash cache by transparently compressing user data as it is loaded into the flash cache.

- **Hybrid Columnar Compression Row Level Locking.** Hybrid Columnar Compression uses one lock per Compression Unit (CU) -- optionally, with Advanced Compression, users can choose to enable Row Level Locking.

- **Online Move Table or Partition (to any compressed format).** ALTER TABLE ... MOVE TABLE/PARTITION ONLINE with Advanced Compression enables non-blocking online DDL where DML operations continue to run uninterrupted on the table, or partition, being moved to any compressed format (Basic, Advanced Row or Hybrid Columnar Compression).

- **Optimization for Flashback Data Archive (FDA) History Table.** Enables Flashback Data Archive to utilize Advanced Row Compression, Advanced LOB Compression/Deduplication and Compression Tiering -- which are not available by default for Flashback Data Archive history tables.

## Disclaimer

*The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described for Oracle's products remains at the sole discretion of Oracle.*

**ORACLE®**

**CONTACT US**

For more information about Advanced Compression, visit oracle.com or call +1.800.ORACLE1 to speak to an Oracle representative.

**CONNECT WITH US**

- **B** blogs.oracle.com/oracle
- **f** facebook.com/oracle
- twitter.com/oracle
- **o** oracle.com

**Hardware and Software, Engineered to Work Together**

Oracle is committed to developing practices and products that help protect the environment