

**MODELING THE DBMS DISK CONFIGURATION  
PERFORMANCE BY MAPPING DBMS AND DISK  
I/O PERFORMANCE: A CASE STUDY IN OIL &  
GAS INDUSTRY**

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## ABSTRACT

DBMS system is widely used in information technology era. It is used to store and retrieve important data of the computer system in the organization. DBMS performance is the critical factor of the computing system where most of the system I/O happening at the database level. Most of the enterprise DBMS system is using enterprise system storage which a system by itself. It is an independent system to provide high disk performance I/O to the DBMS. DBMS has its own I/O behavior while enterprise storage is also has its own I/O configuration. Managing DBMS I/O and enterprise storage I/O is crucial to ensure good performance to the entire system landscape. After all, the only mechanical component used in computer system is the magnetic disk which embedded in the enterprise storage architecture. Thus, mapping the right DBMS disk into enterprise storage configuration is important and such study is yet to be done. There are studies showing that DBMS and enterprise storage system are managed by separate party. Typically DBMS is managed by database administrator and enterprise storage is managed by SAN administrator. This system support arrangement makes the I/O mapping issue become worst as the both role have their opinion and perception toward the disk configuration. The research is minimizing this gap by providing the disk configuration of DBMS and enterprise storage system guideline. The research covers the scope of Oracle database running on Unix platform and using SAN enterprise storage system. Qualitative method is used as an approach to get the data. The experts of oracle DBMS and SAN administrator were interviewed and analysis was performed at the end of the research. The validation of answers was done at the second round of interview. The matching process was also being done at the second interview based on first round of interview. The guideline of DBMS disk configuration is the result from this research. The research limitation and recommendation for future study is included in this research.

**Keyword:** DBMS disk, Oracle disk, SAN storage for DBMS, Oracle disk guideline

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