Book Review

Transaction Processing on Modern Hardware

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When transactions data are processed, it leads to the derivation of meaningful and useful inferences. Realizing this value, the authors have brought a good work on it. Transactions are stored in databases, which provide a trigger for analysing them. In the last ten years, the databases data enable the researchers to move to unearth the processing of the transactions. This book has eight chapters with the first chapter introduction that outlines the treatment of data transactions.

The second chapter on 'Transaction Concepts' have given a focus on basic concepts associated with the data transactions. The conceptual clarifications and the features and requirements are presented in this unit. The transactions characteristics include atomicity, consistency, isolation and durability. Concurrent transactions give rise to conflicts that can be controlled by executing the transactions serially. To do it so, concurrent protocols are established which are explained in this unit.

The next chapter on 'Multi-version Concurrency Revisited', brief the developments in this subdomain over the years by highlighting the changes, architecture and data models. Different concurrency models with data architecture and models form the core of this unit. In the fourth chapter on Coordination-avoidance concurrency, the new kind of deterministic transaction processing tries to remove any non-deterministic code path from the transaction execution logic which helps to eliminate all execution induced aborts. Here the possibility of logic-induced aborts is detailed.

In the next chapter, the concurrency protocols which have the multi-core architecture are discussed in addition to the description of various architectures for the transactional systems. The designs for the data portioning and indexing are explained in the sixth chapter on Hardware-assisted Transactional Utilities. The database portioning concepts and indexing fundamentals with features form the body of this unit.

In the seventh chapter on 'Transactions on Heterogeneous Hardware', the authors addressed the core issue of leveraging the heterogeneity and efficient data access in the network of heterogeneous systems are given. In the last chapter on 'Outlook', the authors have forecasted the future of hardware specialization and its possible impact. This book is supported with a bibliography of both the literature used and required for further understanding.

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