Data Warehousing Features in Informix OnLine XPS

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Abstract

The Data Warehousing application domain is an important area of focus for Informix's OnLine XPS massively parallel server. Fast query processing is a central requirement in this domain. Use of indexes has traditionally been an important query processing technique, helping to reduce response times and increase throughput. The data warehousing environment, characterized by its load-query-refresh mode of operation, offers even greater scope for use of indexes. This talk will describe three new indexing related features in OnLine XPS which together provide significant performance benefits in a wide variety of situations. Bitmap indexes, along with multi-index scans, provide orders-of-magnitude improvement for queries typified by the Set Query Benchmark. Pushdown Semi-Joins combine the benefits of multi-index scans with the scalability of hash joins to efficiently process star-joins. Finally, Generalized-key indexes expand the notion of what can be an index key and provide the ability to store various pre-computed results in an index. Optimizer extensions allow these features to be used in a mix-n-match fashion, thus maximizing the benefits of these features while minimizing the need for user level directives.