The Fragmentation of Distributed Databases*

Nicoleta Magdalena CIOBANU (IACOB) †

May, 2011

Abstract

Improving the performance of a database system is one of the key research issues. Distributed data processing is an effective way to improve reliability, availability and performance of a database system. The fragmentation in a distributed database management system increases the level of concurrency and therefore system throughput for query processing. In this paper we have presented the strategies of data fragmentation and advantages provided by these. In addition, we have presented a case study, E-learning portal performance optimization by using horizontal fragmentation in Oracle distributed database technology.

2010 Mathematics Subject Classification: Primary 68P15, 68P05; Secondary 68N17

Key words and phrases: Distributed databases, Fragmentation, Fragmentation strategies, Case study

^{*}This work was partially supported by the strategic grant POSDRU/88/1.5/S/52826, Project ID52826 (2009), co-financed by the European Social Fund - Investing in People, within the Sectoral Operational Programme Human Resources Development 2007-2013

[†]University of Pitesti, Faculty of Mathematics and Computer Science, Computer Science Department, Targu din Vale Street, No.1, 110040 Pitesti, Romania, nicoleta.iacob_2007@yahoo.com