

Open Source Native XML Database Architectures - A Comparative Study

Ntima Mabanza

*School of Information Technology
Central University of Technology (CUT), Free State
Private Bag X20539, Bloemfontein 9300, South Africa*

Nmabanza@cut.ac.za

Abstract— Text-based and model-based architectures are two models used by Open Source Native XML databases (NXDs) to physically store collections of XML documents. The question is: which one of these two models is better in terms of performance. This paper provides some insights into these two NXD architectures. Additionally, the metric performance comparison of text-based and model-based architectures is observed on three Open Source NXD products specifically dbXML, eXist, and Berkeley DBXML that implement either of these two NXDs architectures. The different methods used by each of these Open Source NXD products to manage collections of XML documents are discussed and time taken to store different number of XML documents is analyzed and compared.

Keywords— *Open Source Native XML database Architectures, XML documents, metric performance comparison.*

Ntima Mabanza is a Ph.D. fellow in the Department of Computer Science and Informatics at the University of the Free State (UFS) in South Africa, researching on educational agent technologies. He obtained his Masters' degree in Computer Science from the University of Fort Hare (UFH) in South Africa. Currently, he is a member of the Information Technology lecturing staff at the Central University of Technology Free State (CUT). His research interests include Educational agents, Open Source XML Databases, and E-commerce & M-commerce security protocols.