Abstract

The challenges involved in effectively storing, retrieving and sharing medical images have led the researchers to look into various means and methods of doing the same. It is the need of the hour for a hybrid data model which will solve all the challenges involved in it. In the previous work the suitability of using NoSQL databases in storing and retrieval of medical images was analyzed. It was found the MongoDB, A NoSQL database suitable to handle medical images. It is also necessary to look for a better way to transfer medical images. Since medical images are huge, it is a challenge to share it with minimal latency. A Model based on a distributed strategy using the sharding environment is proposed. It may be considered to be a hybrid data model using MongoDB to share and handle medical images. This data model is based on storing and retrieving using parallel processing and distributing the data across many machines. The aim of this paper is to study the effectiveness of the sharding or distributed processing concepts available in the NoSQL databases and how it helps us to enhance the bandwidth in sharing of huge medical images.
References

3. Kristina Chodrow, Michael Dirolf, Scaling MongoDB.
5. Alexandre Savaris, Gabriela Bussolo Colonetti, Rodrigo Rodrigues Pires de Mello, Aldo von Wangenheim Relational Databases versus Search Engines: A Performance Comparison for Storing and Querying DICOM Metadata
7. Liliana BYCZKOWSKA-LIPIŃSKA, Agnieszka WOSIAK, Multimedia NoSQL database solutions in the medical imaging data analysis
8. Simón J. Rascovsky, MD, MSc • Jorge A. Delgado, MD • Alexander Sanz, BS • Víctor D. Calvo, BS • Gabriel Castrillón, BS,Use of CouchDB for Document-based Storage of DICOM Objects
9. Luís A. Bastião Silva, Louis Beroud, Carlos Costa and José Luis Oliveira,Medical imaging archiving: a comparison between several NoSQL,978-1-4799-2131-7/14/$31.00 ©2014 IEEE.

Index Terms

Computer Science  Image Processing
Keywords

DICOM, Cloud Computing, MongoDB, Chunked Storage, sharding, parallel processing, Medical Images.