

# **UNIVERSIDADE FEDERAL DE SÃO CARLOS**

CENTRO DE CIÊNCIAS EXATAS E DE TECNOLOGIA

PROGRAMA DE PÓS-GRADUAÇÃO EM CIÊNCIA DA COMPUTAÇÃO

## **PROJETO**

**Explore Redis as Native Pub/Sub NoSQL DB  
(datastructure-oriented) as alternative for MongoDB**

**Grupo 2:**

Claudinei Andrade  
Luciana Abdo  
Thiago Chiqueto

São Carlos – SP  
Julho/2013

## RESULTS:

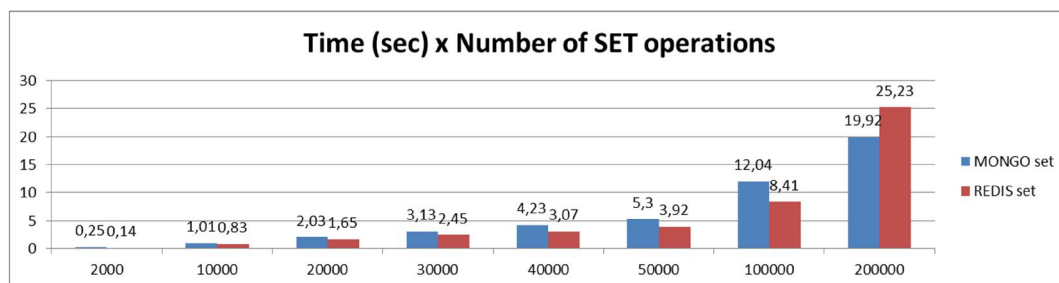
RouteFlow project uses a database to store state information and a mechanism to support inter-process communication (IPC), and currently the database used is MongoDB which is a high-performance application without schemas, document-oriented. (MongoDB)

Already REDIS is a management system database in which the mass of data is stored in memory with the possibility of persistent disk, in addition to the characteristic use key-value model where multiple data types are supported as: strings, lists, arrays, among others. (SEGUIN, 2013).

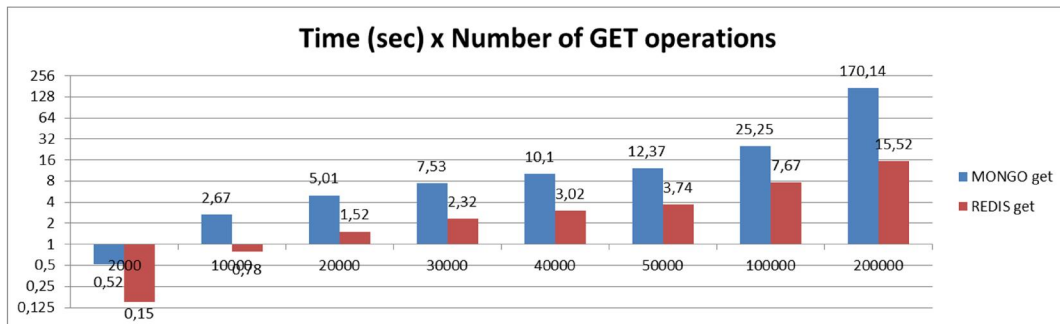
This paper proposed a feasibility study to replace Redis NoSQL DBMS as an alternative mechanism for interprocess communication (IPC) to the currently used, MongoDB, exploring the potential of the new database, testing and comparing the use of tools MongoDB and NoSQL Redis.

Despite the changes applied to code the file Mongoipc.py, suggested by Mr. Christian was not successful in tests with the settings RouteFlow. Errors occurred that were not found during the execution of the modified code.

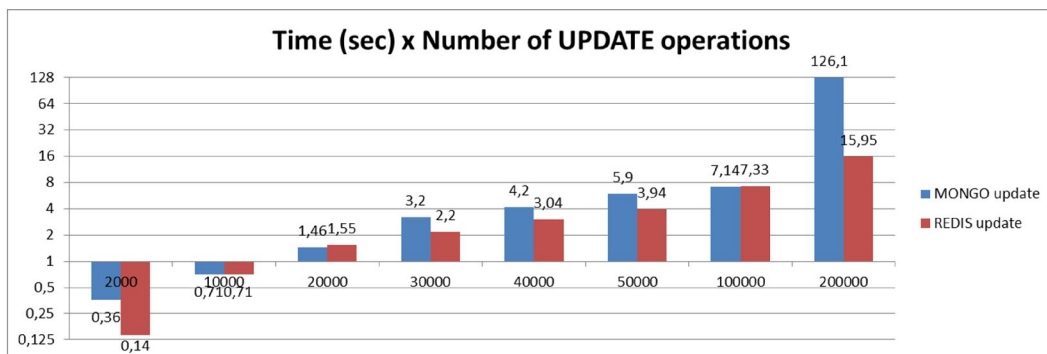
So apply performance testing of both banks, where the execution times of the same base brought better performance for Redis. Times are shown in the graphs below:



Graphic 1 - Time (sec) x Number of SET operations



Graphic 2 - Time (sec) x Number of GET operations



Graphic 3 - Time (sec) x Number of UPDATE operations

Based on testing performed, there is the possibility that there really is a performance increase, with the exception of saving huge amounts of data as Graphic 1.

## REFERÊNCIAS BIBLIOGRÁFICAS

CPQD - CENTRO DE PESQUISA E DESENVOLVIMENTO EM TELECOMUNICAÇÕES. Projeto RouteFlow. Disponível em: <<https://sites.google.com/site/routeflow/>>. Acesso em: 27/3/2013.

MARCONDES, C. Video Curso OpenFlow. ,2012. Disponível em: <<http://www.faacwebtv.com.br/ondemand/index.php?id=16&pagina=pesquisa&query=>>>.

MONGODB, C. The MongoDB 2.4 Manual. Disponível em: <<http://docs.mongodb.org/manual/>>. Acesso em: 31/3/2013.

NASCIMENTO, M.; ROTHENBERG, C.; DENICOL, R.; SALVADOR, M.; MAGALHÃES, M. RouteFlow : Roteamento Commodity Sobre Redes Programáveis. Revista Brasileira de Redes de Computadores e Sistemas Distribuídos, v. 4, n. 2, p. 1983–4217, 2011.

SEGUIN, K. A little Redis book. 2013.