Abstract
Recent technological advances in all components of data centers have caused a need for a new database management system to come into play; one that can work side by side with this new environment that is in need of storing large amounts of data. The distribution of SQL databases in this new environment is almost, if not, at all possible because the “older” databases are built for providing consistency and availability, which means that there is less tolerance for partitioning in the network. Because of this struggle, researchers have turned to continue expanding investigation in NoSQL non relationship database. Distributing data from a NoSQL database that can be found inside a resilient data center will be easy because this type of database allows for horizontal expansion rather than vertical. This horizontal expansion is also beneficial when dealing with Big Data. Though we know with what type of environment NoSQL will work best, security breach along with data replication is still a main concern for companies that want to use this new type of database. This paper will explore security methods currently used in SQL databases and how it can be modified to work with NoSQL along with exploring current security methods for the new types of data centers and how that will help secure the NoSQL database inside the data center.

Security Problem
Recent technological advances in all components of data centers have caused a need for a new database management system to come into play; one that can work side by side with this new environment that is in need of storing large amounts of data. The distribution of SQL databases in this new environment is almost, if not, at all possible because the “older” databases are built for providing consistency and availability, which means that there is less tolerance for partitioning in the network. Because of this struggle, researchers have turned to continue expanding investigation in NoSQL non relationship database. Distributing data from a NoSQL database that can be found inside a resilient data center will be easy because this type of database allows for horizontal expansion rather than vertical. This horizontal expansion is also beneficial when dealing with Big Data. Though we know with what type of environment NoSQL will work best, security breach along with data replication is still a main concern for companies that want to use this new type of database. This paper will explore security methods currently used in SQL databases and how it can be modified to work with NoSQL along with exploring current security methods for the new types of data centers and how that will help secure the NoSQL database inside the data center.

Future Work
• Research Transparent Data Encryption (TDE) in SQL and see how that can be applied to NoSQL databases.
• This will encrypt the data while at rest.
• Better the housing of passwords.
• No more housing of flat java properties files.
• See if there is another mechanism we can implement for replication.
• Rather than just looking at resources, we can look at holding the information in the incoming node until the other node which didn’t get the information comes back on the network.

References