High Availability and Performance Scalability of Real Time Database System

V. S. Phalake\(^1\) and K.D. Yesugade\(^2\)

\(^1\)Bharati Vidyapeeth JNIOT, Pune-43, Maharashtra, India
\(^2\)vaishali.rade@gmail.com and \(^2\)kiran_yesugade@yahoo.com

EXTENDED ABSTRACT

Today’s real-time systems (RTS) are characterized by managing large volumes of dispersed data making real-time distributed data processing a reality. Large business houses need to do distributed processing for many reasons, and they often must do it in order to stay competitive. So, efficient database management algorithms and protocols for accessing and manipulating data are required to satisfy timing constraints of supported applications. Therefore, new research in distributed real-time database systems (DRTDBS) is needed to investigate possible ways of applying database systems technology to real-time systems. The performance issues that are important to DRTDBS, and then survey the research that has been done so far on the issues commit protocols and optimizing the use of memory in non-replicated/replicated environment pertaining to distributed real time transaction processing. Real time distributed systems were once the exception, constructed only rarely and with great difficulty by developers who spent significant amounts of time mastering the technology. Now, as modern software technologies have made distributed systems easier to construct, they have become the norm. Unfortunately, many real time distributed database systems fail to meet their performance objectives when they are initially constructed. Others perform adequately with a small number of users but do not scale to support increased usage. These performance failures result in damaged customer relations, lost productivity for users, lost revenue, cost overruns due to tuning or redesign, and missed market windows. Here the developed system provides high availability and performance scalability for large distributed databases. It provides transparent database clustering, partitioning, real time replications and real-time Database operations to any Java application through Java based Data Base Connector.

CONCLUSION

Many real time distributed database systems fail to meet their performance objectives when they are initially constructed. Others perform adequately with a small number of users but do not scale to support increased usage. These performance failures result in damaged customer relations, lost productivity for users, lost revenue, cost overruns due to tuning or redesign, and missed market windows. Here the developed system provides high availability and performance scalability for large distributed databases. It provides transparent database clustering, partitioning, real time replications and real-time Database operations to any Java application through Java based Data Base Connector.

FUTURE SCOPE

1. RAID db Backup Support.
2. Implementation of Status and Activity Charts for VDB.
4. Implementing GUI Manager for Controller Activity and connections.

REFERENCES

Research papers

[1] “Improving Availability and Performance with Application-Specific Data Replication”, Lei Gao, Mike Dahlin, Amol Nayate In IEEE Transactions on Knowledge and Data Engineering vol. 17 #1, January 2005.

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