SPRINGER LINK

Log in

■ Menu

Q Search

🗀 Cart

<u>Home</u> > <u>Information and Communication Technology for Intelligent Systems</u> > Conference paper

Enhancing of Data Retrieval by Means of Database Query Analyzer (DBQA)

| Conference paper | First Online: 15 December 2018

| pp 95–103 | Cite this conference paper



<u>Information and Communication</u>
Technology for Intelligent Systems

S. B. Misal 🔽 & Ashok T. Gaikwad

Part of the book series: <u>Smart Innovation</u>, <u>Systems and Technologies</u> ((SIST, volume 107))

1462 Accesses

Abstract

The power and usefulness of computer are due to its efficiency, accuracy, compatibility, and consistency features. The efficiency of computer had great enhancement from first generation to fifth generation and is an ongoing process until date. Efficiency of computer depends upon the performance of the system while achieving particular result. To increase efficiency and attain fast performance in database management system, query optimization plays an

important role. Optimizer in query optimization acts as a brain of computer, which decides the right access method, algorithm, and joins order for better execution of the query with minimum time and cost. Cost is the time for disk access. In this paper, we have attempted cost optimization for select * query by developing Database Query Analyzer (DBQA). DBQA is analyzer which analyzes given query and produces results in terms of time and cost. In the experiment, select * query was provided to DBQA for three different standard databases like dvdrental, accidents, and DBLP with size 7 MB, 320 MB, and 2 GB, respectively, and observed that cost produced by DBQA was 96% optimized than cost produced by existing system.

■ This is a preview of subscription content, log in via an institution

to check access.

this chapter	Access this cl
n institution	Log in via an insti
EUR 29 Price includes VAT (Inc	Chapter
	Available as PDF
	Read on any device
	Instant download
	Own it forever
Chapter →	Buy Chapter
EUR 160	eBook
EUR 199	Hardcover Book

Tax calculation will be finalised at checkout Purchases are for personal use only

<u>Institutional subscriptions</u> →

Similar content being viewed by others



What If Mixing
Technologies for Big Data
Mining and Queries
Optimization

Chapter © 2015



Improving Query
Processing Performance
Using Optimization
Techniques for Object-...

Chapter © 2016



Enforcing Indexing
Techniques in Berkeley
DB Using Implementation
of Hilbert Tree Algorithm

Chapter © 2016

References

1. Rupley Jr., M.L.: Introduction to Query Processing and Optimization. Indiana University at South Bend

Google Scholar

2. Cole, R.L., Graefe, G.: Optimization of dynamic query evaluation plans. In: Proceedings of the ACM SIGMOD, vol. 24, pp. 150–160. ACM Press, New York (1994)

Article Google Scholar

3.	Morvan, F., Hameurlain, A.: Dynamic query optimization: towards decentralized methods.
	Int. J. Intell. Inf. Database Syst. (2009)

Google Scholar

4. Kumari, N.: SQL server query optimization techniques—tips for writing efficient and faster queries. Int. J. Sci. Res. Publ. 2(6) (2012)

Google Scholar

5. Misal, S.B., Gaikwad, A.T.: Design execution plan for effective run time. IJMER 3(3, 11) (March 2014)

Google Scholar

6. Habimana, J.: Query optimization techniques—tips for writing efficient and faster queries. Int. J. Sci. Technol. Res. 4(10) (2015)

Google Scholar

7. Shekhar, S., Hamidzadeh, B., Kohli, A., Coyle, M.: Learning transformation rules for semantic query optimization a data driven approach. IEEE Trans. Knowl. Data Eng. 5(6) (1993)

Google Scholar

8. Pedrozo, W.G., Vaz, M.S.M.G.: A tool for automatic index selection in database management systems. In: IEEE International Symposium on Computer, Consumer and Control (2014). 978–1–4799–5277–9/14

Google Scholar

- 9. Raza, B., Mateen, A., Sher, M., Awais, M.M., Hussain T.: Autonomic view of query optimizers in database management systems. In: 8th ACIS International Conference on Software Engineering Research, Management and Applications (2010). https://doi.org/10.1109/sera.2010.11
- 10. Bassil, Y.: A comparative study on the performance of the top DBMS systems. J. Comput. Sci. Res. 1(1). 20-31 (2012)

Google Scholar

11. Saikia, A., Joy, S., Dolma, D., Mary, R.: Int. J. Adv. Res. Comput. Commun. Eng. 4(3) (2015)

Google Scholar

12. Wu, W., Wu, X., Hacigümüs, H., Naughton, J.F.: Uncertainty aware query execution time prediction. In: Proceedings of the VLDB Endowment, vol. 7, no. 14 (2014)

Article Google Scholar

13. Wu, W., Chi, Y., Zhu, S., Tatemura, J., Hacígümüş, H., Naughtony, J.F.: Predicting query execution time: are optimizer cost models really unusable?

Google Scholar

14. Wu, W., Chi, Y., Hacígümüş, H., Naughton, J.F.: Towards predicting query execution time for concurrent and dynamic database workloads. In: Proceedings of the VLDB Endowment, vol. 6, no. 10 (2013)

Article Google Scholar

15. Akdere, M., Cetintemel, U.: Learning-based query performance modeling and prediction

Google Scholar

16. Hassan, M.M., Sultan, A.M.: SQOPI: semantic query optimization framework. Int. J. Comput. Appl. 96(6) (0975–8887) (2014)

Google Scholar

17. Muhammad, L.J., Zakariyau, Y.B., Ali, A.G., Mohammed, I.A.: Multi query optimization algorithm using semantic and heuristic approaches. Int. J. Modern Nonlinear Theory Appl. (2016)

Google Scholar

- 18. MySQL 5.7. http://downloads.mysql.com/docs/refman-5.7-en.pdf. Accessed 25 July 2016
- 19. Oracle Database 11g Release 2. http://docs.oracle.com/cd/E11882_01/server.112/e40402.pdf. Accessed 30 July 2016
- 20. PostgreSQL Release 9.5. <u>www.postgresql.org/docs/9.5/static/docguide.html</u>. Accessed 01 Aug 2016
- 21. MS SQL Server 2014. https://msdn.microsoft.com/en-us/library/mt238488.aspx. Accessed 06 Aug 2016
- 22. Lange, D., Naumann, F.: Proceedings of the 20th ACM Conference on Information and Knowledge Management (CIKM), pp. 243–248, Glasgow, Scotland, UK (2011)

Google Scholar

Acknowledgements

Dr. Babasaheb Ambedkar Research and Training Institute (BARTI), Pune, supports this research. We are thankful to the Department of Computer Science and IT, Dr. Babasaheb Ambedkar Marathwada University, for providing necessary facility at prompt.

Author information

Authors and Affiliations

Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, Maharashtra, India S. B. Misal

Institute of Management Studies and Information Technology, Aurangabad, Maharashtra, India

Ashok T. Gaikwad

Corresponding author

Correspondence to S. B. Misal.

Editor information

Editors and Affiliations

School of Computer Engineering, KIIT Deemed to be University, Bhubaneswar, India Suresh Chandra Satapathy

Sabar Institute of Technology, Gujarat Technological University, Ahmedabad, Gujarat, India Amit Joshi

Rights and permissions

Reprints and permissions

Copyright information

© 2019 Springer Nature Singapore Pte Ltd.

About this paper

Cite this paper

Misal, S.B., Gaikwad, A.T. (2019). Enhancing of Data Retrieval by Means of Database Query Analyzer (DBQA). In: Satapathy, S., Joshi, A. (eds) Information and Communication Technology for Intelligent Systems . Smart Innovation, Systems and Technologies, vol 107. Springer, Singapore. https://doi.org/10.1007/978-981-13-1747-7_10

.RIS生 .ENW生 .BIB生

DOI	Published	Publisher Name
https://	15 December 2018	Springer, Singapore
doi.org/10.1007/978-981-		
13-1747-7_10		

Print ISBN	Online ISBN	eBook Packages
978-981-13-1746-0	978-981-13-1747-7	Intelligent Technologies
		and Robotics
		Intelligent Technologies
		and Robotics (R0)

Publish with us

Policies and ethics [2

9 of 9