



DBCOMPLIANT: A NEW APPROACH TO COMPLIANCE

**AUTOMATE COMPLEX RETENTION AND
PURGING DATABASE POLICIES**

Summary of DBCompliant Research Project from DePaul University

Page 1 (2)

The Always Audit-Ready Business

Personal data is a valuable asset, enabling many businesses to thrive. This data is increasingly regulated, with policies that protect privacy and improve security. Companies must comply with complex and evolving policies before being audited by legal authorities.



DBCompliant benefits:

- Ensures that your structured or semi-structured databases are compliant.
- Automatically enforces both retention and purging policies on data.
- Uses simple SQL-based commands to specify data policies.
- Can be easily integrated with almost any database.
- Guaranteed to enforce purging compliance even if the data is in offline backup.

The Data Engineer struggles

Gigantic requirements are given to data security engineers to comply with laws and regulations.

DBCompliant provides a scientific approach backed by years of academic research and peer-reviewed publications. It is validated by a prototype that proves the feasibility and scalability of integrating policy semantics in databases.

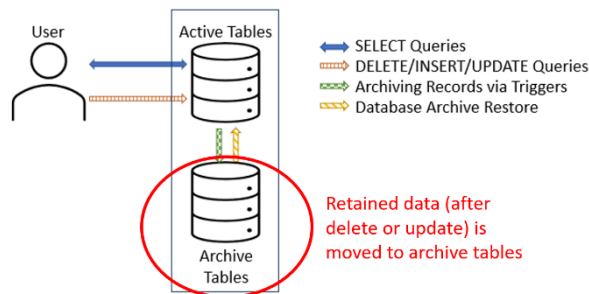
Integrating DBCompliant solution in your database is straightforward. There is no need to migrate your data, change database software, or implement time-consuming and error-prone changes. DBCompliant performs its work with moderate storage and low performance overhead depending on the defined policies and configuration.

5 Papers

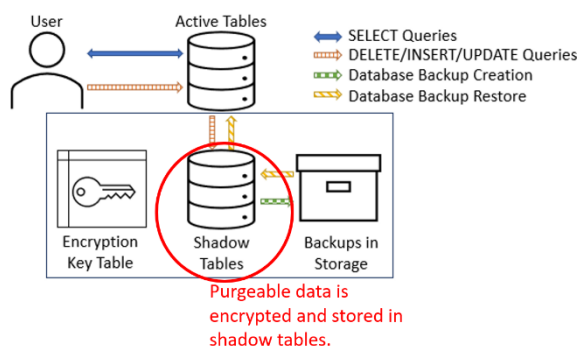
Supported by peer-reviewed scientific papers

The DBCompliant retention mechanism stores your retained data in archive tables. For example, if a database user accidentally deletes data covered by a retention policy, DBCompliant will automatically archive that data in a separate table. Thus, no retained data can ever be destroyed before its expiration date.

The purging policies are enforced by DBCompliant even if your data is stored in an offline backup. Using a cryptographic erasure technique, DBCompliant automatically encrypts your data based on applicable policies and destroys the crypto keys when it is time to purge the data.



Retention policies require keeping data for a specific duration of time. Users must not be able to delete the data before that date accidentally. DBCompliant ensures data retention without the risk of generating errors that may impact user workflow. The data is archived in the background and can be retrieved if there is an audit or an external user request.



The purging mechanism in DBCompliant covers the data in all backups, including offline backups. Although regular backups are essential for ensuring data integrity and disaster recovery, it can be challenging to delete data in backups. Database backup utilities do not support editing backups, and the backup may even be offline. Offline backups present an additional level of security from ransomware attacks. DBCompliant encrypts the data covered by purging policies (using a separately stored key) in shadow tables that mirror regular user tables. Based on policy requirements, DBCompliant automatically destroys the encryption key corresponding to the data that reached its expiration date. Although data remains in backups, it can no longer be accessed without the decryption key.

Collaboration Opportunities

You can use DBCompliant in your databases or install it in one of your clients' or partners' databases if they need to comply with any retention or purging policies.

DBCompliant has excellent potential for commercialization. It is currently in the scientific prototype phase. You can collaborate with the team on business ideas if you see the real need for this solution in the market.

We are also open to writing and publishing academic research papers. You can collaborate with the DBCompliant team with your research ideas, problems, or investigate real-life use cases.

Finally, DBCompliant offers an opportunity to apply for the Small Business Technology Transfer (STTR) program. A successful STTR proposal will give your business and the DBCompliant team access to start-up funds for future work to solidify and expand the compliance solution.

1 Patent

Innovative solutions protected with a pending patent.

Conclusion

Ensuring database compliance with retention and purging policies is a challenging mission. DBCompliant ensures data retention efficiently and guarantees access to protected data even after a user deletes it. For data purging, DBCompliant uses a cryptographic erasure technique to delete data at the correct time, even in an offline backup. There are several business and academic collaboration opportunities with the project.