Review of the book

Preserving Privacy in Data Outsourcing:

by Sara Foresti

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1   Overview:

This book presents the author's collective research publications on methods to securely outsource data. Secure data outsourcing has become a hot topic of research since its widespread use in multimedia sharing, health care and financial systems. This book is particularly useful to the readers who are interested in doing research related to secure data outsourcing in order to gain a deeper knowledge in analysing the security properties that should be considered when the data is stored by the honest but curious server.

The main objective of this book is to provide a detailed analysis on security of the data that are not directly controlled by the data owner but are stored and managed by the servers that are not fully trusted. This book focus on proposing a model for access control enforcement, a system for privacy protection and a solution for integrating data from different sources safely. While presenting a detailed analysis on the above security aspects considered for data outsourcing, this book also presents state of art techniques to achieve various security objectives on the data handled by the partially trusted server.

2   About Contents

The main chapters in the book are:

Chapters 2 In this chapter, various methods that addresses the security related issues arised in the data outsourcing scenario have been discussed. In particular, mechanisms for efficient query evaluation and preliminary work on access control enforcement have been well explained.

Chapters 3 This chapter describes the model for access control enforcement on outsourced data that might be encrypted. The model uses different keys to encrypt different data and provides the key derivation methods for generating different keys. The difference between the proposed model and the other previous models have been well explained.

Chapter 4 This chapter presents a model to represent the requirements on maintaining the privacy of the data by combining the encryption and fragmentation techniques. Since not all the data collected are sensitive, a model to fragment the data and encrypt the sensitive part is necessary and hence the model presented in this chapter captures these requirements.

Chapters 5 In this chapter , the author proposed a solution to integrate the data subject to various security constraints that comes from the different parties. A new access control model has been proposed and it has been executed efficiently using graph coloring techniques.

3 Recommendations

In this book, the author motivated the necessity of protecting information that is outsourced to the external server (who is partially trusted) by illustrating real life scenarios. This book is clearly written and it provides good motivation to the readers. I would recommend this for a class of readers who wish to know how a system is designed for protecting outsourced data.

4 Conclusion

This book would be useful for researchers to master strategies in:

- access control enforcement

- privacy protection and

- safe data integation

Several possible extensions to the above strategies have been described that could be the useful hints for researchers to perform further research in this area.

The reviewer is a Ph.D. student at Queensland University of Technology, Australia.