A Decentralized Model for Information Flow Control

Andrew C. Myers and Barbara Liskov, 1997

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Mikael Elkiær Christensen
michri11@student.aau.dk

Department of Computer Science
Aalborg University
Denmark

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DENMARK

Introduction

The result of this paper is a model for controlling information flow: Decentralized Label Model (DLM).

Introduction
What it is not

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- Access Control (inter-application communication)

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- Authentication, Authorization, Confidentiality, etc.

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This means that DLM will not ensure:

- secure communication between applications
- limited access to data once released

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- Information Flow Control

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- Decentralized

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- not releasing sensitive data

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- not implicitly releasing sensitive data

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What it is

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- Decentralized

This means that DLM will help ensuring:

- not releasing sensitive data
- not implicitly releasing sensitive data
- not giving away hints of inner workings

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DLM differs from previous solutions as it is:

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- less restrictive of allowed computations
- not completely disallowing inter-application communication

DLM Basics

DLM Basics
Terminology

Principals represent users and other authoritative entities.

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Labels are attached to values, slots or channels (more to follow).

DLM Basics
Labels

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DLM Basics
Operations

Example

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Example
Code Example

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Advanced

Conclusion

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Conclusion
Future Works

Questions?

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