

A Decentralized Model for Information Flow Control

Andrew C. Myers and Barbara Liskov, 1997

September 23, 2015

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

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It is not:

- Access Control (inter-application communication)



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It is not:

- ▶ Access Control (inter-application communication)
- ▶ Authentication, Authorization, Confidentiality, etc.



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It is not:

- ▶ Access Control (inter-application communication)
- ▶ Authentication, Authorization, Confidentiality, etc.

This means that DLM will not ensure:



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It is not:

- ▶ Access Control (inter-application communication)
- ▶ Authentication, Authorization, Confidentiality, etc.

This means that DLM will not ensure:

- ▶ secure communication between applications



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It is not:

- ▶ Access Control (inter-application communication)
- ▶ Authentication, Authorization, Confidentiality, etc.

This means that DLM will not ensure:

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



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It is:

► Information Flow Control

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It is:

- ▶ Information Flow Control
- ▶ Decentralized

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It is:

- ▶ Information Flow Control
- ▶ Decentralized

This means that DLM will help ensuring:

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It is:

- ▶ Information Flow Control
- ▶ Decentralized

This means that DLM will help ensuring:

- ▶ not releasing sensitive data

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It is:

- ▶ Information Flow Control
- ▶ Decentralized

This means that DLM will help ensuring:

- ▶ not releasing sensitive data
- ▶ not implicitly releasing sensitive data

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It is:

- ▶ Information Flow Control
- ▶ 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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DLM differs from previous solutions as it is:

- decentralized



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DLM differs from previous solutions as it is:

- ▶ decentralized
- ▶ less restrictive of allowed computations



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Questions?



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