Abstract

This is the abstract for my master's thesis.

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Disclaimer

Acknowledgements

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Chapter 1 Introduction

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Background

Formal Methods

Functional Programming

Higher Order Logic (HOL) Interactive Theorem Prover

Other Interactive Theorem Provers

Systems Security Engineering

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- 3.2 Verification & Documentation
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- 8.3 Stop-Gaps, Lessons Learned, & Advice
- 8.4 Other Verifiable Theories
- 8.4.1 Platoon Theory, Soldier Theory, Squad Theory, etc.
- 8.4.2 Soldiers in Roles

Future Work & Implications

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9.1 The Devil Is in The Details

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Perinton, N.Y. – The FBI conducted a search of Morgan Management LLC's offices in Monroe County Monday as part of an ongoing investigation into the development company's business practices, according to Rochester area media reports.

Agents were seen carrying boxes in and out of the company's headquarters at 1080 Pittsford Victor Road in the town of Perinton, according to the reports.

An FBI spokeswoman confirmed that agents conducted "court-authorized activity at 1080 Pittsford Victor Road," the Democrat & Chronicle reported. The company's founder, developer Robert Morgan, was in the office as agents conducted the search, the newspaper said.

The newspaper reported in September that a federal investigation is focused on bank loans to Morgan's real estate portfolio, which, according to the company's website, has grown to 140 properties and more than 34,000 apartment units across 14 states since the company's founding in 1979.

The investigation is centered largely on Buffalo-region apartment complexes purchased by Morgan's companies and whether the information the company gave lenders to obtain the loans was accurate, according to the newspaper.

However, the Buffalo News reported in March that the investigation includes a look at Morgan's purchase of the Rugby Square apartment complex on Dorchester Avenue in Syracuse. One of Morgan's companies borrowed \$5.56 million to buy the apartment complex in a distress sale in 2012, then obtained a new \$9 million mortgage on the property just 10 months later after reporting a major turnaround of the complex, the newspaper said.

Morgan has said his companies have done nothing illegal to obtain financing. No charges have been filed in connection with the investigation.

According to the company's website, Morgan operates 13 apartment complexes in the Syracuse area.

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Appendices

- .1 Access Control Logic Theories in HOL
- .2 Secure State Machine Theories Applied to Patrol Base Operations
- .3 Pretty-Printed Theories
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References

[1] Shiu-Kai Chin and Susan Beth Older. Access Control, Security, and Trust: A Logical Approach. Chapman & Hall: CRC Cryptography and Network Security Series. Chapman and Hall/CRC, July 2010.