بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

MONA MAGHRABY

USING TRUSTED CLOUD COMPUTING TO PROVIDE TRUST INTO MULTI-BLOCKCHAIN ECOSYSTEMS

By

Fady AbdelMoneim Mohamed Ibrahim

A Thesis Submitted to the
Faculty of Engineeringat Cairo University
in Partial Fulfillment of the
Requirements for the Degree of
DOCTOR OF PHILOSOPHY
in
Computer Engineering

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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Under the Supervision of

Prof. Dr. Amr Wassal
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Prof. Dr. Elsayed Hemayed
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Faculty of Engineering, Cairo University

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Title of Thesis:

Using Trusted Cloud Computing to Provide Trust into Multi-blockchain Ecosystems

Key Words:
Blockchain; Off-chain; Trusted Computing; Cloud Computing

Summary:
We developed a framework, called Trusted Blockchain-Oracle Request Framework (T-BORF), to show how can we use trusted cloud computing to attest to an oracle and provide this remote attestation to a blockchain. We offered a trusted way for off-chains communications. For example, using our framework with Hyperledger Fabric, any organization participating in a business network (that plays the role of an oracle) proves the trust state of all the virtual machines where the containers of the peers exist.

Disclaimer

I hereby declare that this thesis is my own original work and that no part of it has been submitted for a degree qualification at any other university or institute.

I further declare that I have appropriately acknowledged all sources used and have cited them in the references section.

Name: Fady AbdelMoneim Mohamed Ibrahim Date:

Signature:

Dedication

I want to dedicate this thesis to my lovely family for all of their support.

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I want to acknowledge my supervisors Dr Elsayed Hemayed and Dr Amr Wassal, for their efforts throughout my thesis with their patience and knowledge. One could not wish for better or kinder supervisors.

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