Impact of Digital Signatures on Latency and Non-Repudiation in High-Frequency Banking Communications

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Not finished yet, 2026

Abstract

This paper investigates the impact of implementing digital signatures on latency and non-repudiation guarantees in high-frequency banking communications. The objective is to establish a methodological baseline for measuring computational costs, latency variation, and legal security gains.

Keywords: digital signatures, latency, non-repudiation, banking systems, high-frequency.

1 Introduction

Present the context of high-frequency banking communications, reliability requirements, and the role of digital signatures.

2 Problem Statement and Hypotheses

Define the central problem and hypotheses about the trade-off between latency and non-repudiation guarantees.

3 Objectives

Will implement in Sprint 2 to outline specific objectives related to measuring latency impacts and non-repudiation benefits.

4 Theoretical Foundation

Will implement in Sprint 2 to synthesize concepts of digital signatures, network latency, and non-repudiation properties.

5 Methodology

Will implement in Sprint 3 to detail the experimental design, including test scenarios, control variables, and data collection methods.

6 Experiment Architecture

Will implement in Sprint 3 to explain the environment, components, test workloads, and key and certificate configurations.

7 Metrics and Instrumentation

Will implement in Sprint 3 to define metrics (p99, p999, throughput, message size) and collection instruments.

8 Expected Results

Will implement in Sprint 4 to indicate expected results and possible patterns of latency degradation.

9 Threats to Validity

Will implement in Sprint 4 to describe evaluation limits, biases, and external factors.

10 Conclusion

Will implement in Sprint 5 to recap the value of the study and propose next steps.

References

Just a few key references to be expanded upon after the literature review is complete.

References

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