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Paper: **"A Quantum-Safe, Interoperable, and Decentralized Payment Infrastructure for the Post-Classical Era as a Strategic Framework for Secure Global Transactions"**

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Peer review:

Reviewer 1: Djamel Zemoura
Université Mohamed Khider de Biskra, Algeria

Reviewer 2: Jean Jacques Raphael
Simul'N'Innov Inc., Canada

Reviewer 3: Elda Xhumari
University of Tirana, Albania

Reviewer A:
Recommendation: Accept Submission

The TITLE is clear and it is adequate to the content of the article.
Yes, the title clearly reveals the subject developed in the article: the design of a quantum safe to protect financial transactions.
The ABSTRACT clearly presents objects, methods, and results.
Le résumé présente un survol de tous les sujets qui seront développés dams l'article : le PQC, la menace de déchiffrement des transactions bancaires par suite de la violation des clés ainsi que les méthodes proposées jusqu'ici pour y remédier à ce danger.
There are a few grammatical errors and spelling mistakes in this article.
I think the paper is grammatically correct.
The study METHODS are explained clearly.
Theoretically, the article has several positive aspects regarding originality and solution-orientedness. But in practice, this research will face significant challenges, which we will see later.
The body of the paper is clear and does not contain errors.
Some of the objections we have include:
1- The proposed solution primarily concerns dedicated servers installed in highly secure environments.
2- The solution appears to support all platforms: MS-IOS-Linux. Vulnerability management isn't straightforward.
3- The solution is software-oriented, whereas a quantum computer relies on the hardware operation of certain components according to the laws of physics: photon emission, quantum entanglement, tunneling.
4-Will the laws governing existing information systems such as the Turing machine or Von Neumann's compilation theory apply to PCQ?
The CONCLUSION or summary is accurate and supported by the content.
Yes, the conclusion is correct and consistent with the methodology, but we must now think about a new conceptual machine that could migrate in the future to the quantum computer.
The list of REFERENCES is comprehensive and appropriate.
1-To combat the harvest, a preliminary reformatting of the current data and the modification of certain parameters are required, since the " harvest-now, decrypt-later" has already begun. The author does not seem to consider the published documents on this aspect in his references.
2-Cryptography necessarily involves a mathematical model. This is only discussed for Isogeny- and Multivariate-Based Cryptography, which is barely used (p. 14). This should have been discussed in more depth for lattice- and hash-based cryptography.
Please rate the TITLE of this paper.
[Poor] **1-5** [Excellent]
4

Please rate the ABSTRACT of this paper.

[Poor] **1-5** [Excellent]
4

Please rate the LANGUAGE of this paper.
[Poor] **1-5** [Excellent]
4

Please rate the METHODS of this paper.
[Poor] **1-5** [Excellent]
3

Please rate the BODY of this paper.
[Poor] **1-5** [Excellent]
4

Please rate the CONCLUSION of this paper.
[Poor] **1-5** [Excellent]
4

Please rate the REFERENCES of this paper.
[Poor] **1-5** [Excellent]
3

Overall Recommendation!!!
Accepted, minor revision needed

Comments and Suggestions to the Author(s):
This article is a summary. We should consider publishing several others on each of these aspects, particularly for lattice and hash-based cryptography.

Reviewer B:
Recommendation: Accept Submission

The TITLE is clear and it is adequate to the content of the article.
Title: Clear, informative, and representative of the scope.
The ABSTRACT clearly presents objects, methods, and results.
Abstract: Concise and well-written. It summarizes the threat, objectives, approach, and key findings effectively.
There are a few grammatical errors and spelling mistakes in this article.
Yes, while the article is overall well-written and highly professional, there are a few minor grammatical and typographical issues that should be corrected for final publication. Below is a

curated list of the most relevant corrections based on a scan of the article:
General Observations
Consistency: Mostly consistent in spelling (uses American English), punctuation, and capitalization.
Tense: Occasionally shifts from present to past or future inappropriately.
Articles and Prepositions: Occasional missing articles ("a", "the") or prepositions.
Spacing: Some spacing issues after periods or in tables (minor, but can be cleaned).
The study METHODS are explained clearly.
Methodology:
Applies a hybrid approach combining analytical modeling and case study validation.
References to BIS, NIST, Accenture, and JPMorgan add practical credibility.
Explains the use of conceptual architecture, modular layers, and simulation-based evaluation.
Comment: Well-justified methodology aligned with systems engineering standards.
The body of the paper is clear and does not contain errors.
The body of the paper is generally clear, coherent, and professionally written, and it does not contain any major grammatical or spelling errors that would impede comprehension or disqualify it for journal publication. However, there are a few minor linguistic, stylistic, and consistency issues worth correcting to polish the manuscript for final submission.
The CONCLUSION or summary is accurate and supported by the content.
Conclusion:
Synthesizes key insights clearly.
Emphasizes the urgency ("Q-Day") and the opportunity to redesign secure payment systems.
Comment: Strong closure and policy relevance.
The list of REFERENCES is comprehensive and appropriate.
the list of references in your article is comprehensive, up-to-date, and appropriate for the subject matter. It reflects a deep engagement with both academic research and authoritative industry sources, which strengthens the paper's credibility and scholarly value.
Please rate the TITLE of this paper.
[Poor] **1-5** [Excellent]
5

Please rate the ABSTRACT of this paper.
[Poor] **1-5** [Excellent]
4

Please rate the LANGUAGE of this paper.
[Poor] **1-5** [Excellent]
5

Please rate the METHODS of this paper.
[Poor] **1-5** [Excellent]
4

Please rate the BODY of this paper.
[Poor] **1-5** [Excellent]
4

Please rate the CONCLUSION of this paper.
[Poor] **1-5** [Excellent]
5

Please rate the REFERENCES of this paper.
[Poor] **1-5** [Excellent]
5

Overall Recommendation!!!
Accepted, minor revision needed

Comments and Suggestions to the Author(s):
Type Description
Language polish Minor grammar fixes (missing articles, wordiness) and smoothing of a few long sentences.
Figures Add 1–2 diagrams (platform architecture and use case flow). Highly recommended for clarity.
Glossary (optional) Briefly define technical terms on first use (e.g., zk-SNARKs, PBFT, DID).
Formatting Standardize APA references (titles, italics, commas) and optionally include DOIs or URLs.

Reviewer C:
Recommendation: Revisions Required

The TITLE is clear and it is adequate to the content of the article.
The title is highly informative, precise, and well-aligned with the paper's content. It clearly conveys the focus on quantum-safe, interoperable, and decentralized infrastructure, and reflects the comprehensive strategic vision presented.
The ABSTRACT clearly presents objects, methods, and results.
The abstract is comprehensive and well-structured, covering the threat posed by quantum computing, the proposed architecture, key technical components, and the broader implications. It clearly outlines the objectives, scope, methodology, and conclusions. Very well-written.
There are a few grammatical errors and spelling mistakes in this article.
Minor grammatical inconsistencies and stylistic repetitions exist (e.g., repeated emphasis on urgency and PQC maturity), but they do not significantly impact readability. A careful proofreading round is recommended for polishing.
The study METHODS are explained clearly.
The methodology section is robust and methodologically sound. It clearly articulates the applied analytical approach, use of literature synthesis, case studies, and conceptual architectural modeling. Limitations are appropriately discussed.

The body of the paper is clear and does not contain errors.
The main body is thorough, logically structured, and supported with extensive technical details and references. Concepts are clearly explained, and the layered architecture is effectively presented. However, some sections could benefit from slight condensation to improve flow.
The CONCLUSION or summary is accurate and supported by the content.
The conclusion effectively summarizes the findings, emphasizes the urgency of transition to PQC, and provides a clear strategic roadmap. It ties well with the objectives and supports the proposed solution with practical validation.
The list of REFERENCES is comprehensive and appropriate.
The references are extensive, current, and well-integrated into the narrative. All cited works appear relevant and authoritative. Ensure all in-text citations match the reference list.
Please rate the TITLE of this paper.
[Poor] **1-5** [Excellent]
5

Please rate the ABSTRACT of this paper.
[Poor] **1-5** [Excellent]
5

Please rate the LANGUAGE of this paper.
[Poor] **1-5** [Excellent]
4

Please rate the METHODS of this paper.
[Poor] **1-5** [Excellent]
5

Please rate the BODY of this paper.
[Poor] **1-5** [Excellent]
5

Please rate the CONCLUSION of this paper.
[Poor] **1-5** [Excellent]
5

Please rate the REFERENCES of this paper.
[Poor] **1-5** [Excellent]
5

Overall Recommendation!!!
Accepted, minor revision needed

Comments and Suggestions to the Author(s):
This is an excellent, technically rich, and forward-looking paper that addresses a highly relevant issue in digital finance. The proposed quantum-safe payment infrastructure is detailed, strategically sound, and supported by real-world case studies. Minor editorial revisions and

grammatical refinement would further enhance readability. You may also consider visually summarizing your architecture or use case in a figure to aid understanding.
