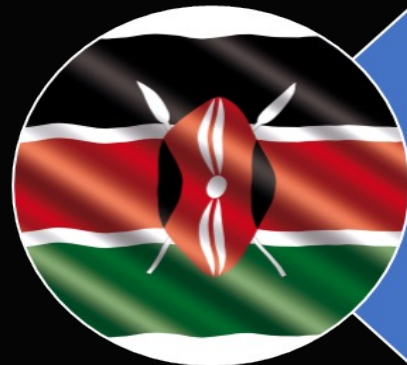




Name: Alex Wafula Okabo



Country: Kenya, Nairobi

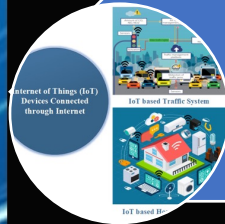


School: Zetech University



Major: Cyber Security And Networking

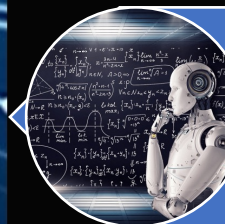
Emerging Technologies and Their Impact on DNS



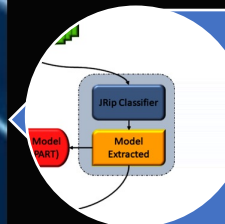
Internet Of Things(IOT) And DNS



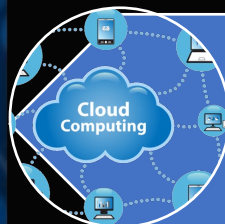
Blockchain And DNS



Artificial Intelligence(AI) and DNS



Machine Learning And DNS

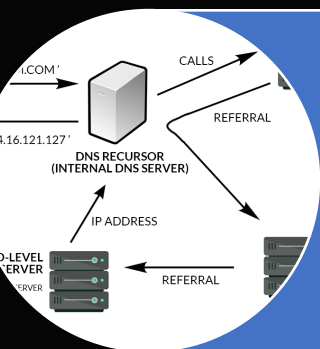


Cloud Computing And DNS

REASONS FOR CHOOSING THIS TOIC



Relevance in today's digital landscape



Complexity and importance of DNS



Innovation driving industry changes



Addressing challenges and proposing solutions



Internet of Things (IoT) and DNS

Reliance on DNS

The proliferation of IoT devices has significantly increased the demand for efficient DNS resolution, as these devices rely on the domain name system for address resolution and communication.

Dynamic IP Challenges

ICANN must accommodate the growing number of IoT devices and their dynamic IP addresses, which can pose scalability and

Ensuring Scalability

As the IoT ecosystem continues to expand, ICANN must prioritize the development of strategies and policies that ensure the DNS can effectively handle the increasing volume and complexity of IoT-related traffic.

Blockchain and DNS

Tamper Resistant

Record keeping

Blockchain technology offers a tamper-resistant and transparent record-keeping system, which can enhance the security and reliability of Domain Name Registration ownership, and resolution.

Compatibility Challenges

ICANN faces complex

questions about how to effectively integrate blockchain-based solutions into the existing DNS infrastructure, while ensuring seamless compatibility and universal accessibility.

Emerging Alt

-Root Domains

The rise of blockchain-based alt-root domain names presents both opportunities and challenges, as ICANN must address compatibility issues and ensure the stability of the broader DNS ecosystem.



Artificial Intelligence (AI) and DNS

1 Enhanced Security

AI-driven algorithms can enhance DNS security by identifying patterns of malicious behavior, enabling proactive detection and mitigation of threats to the DNS infrastructure.

2 ICANN's Response

ICANN must consider AI-based solutions to protect DNS infrastructure and ensure reliable resolution, as the threat landscape continues to evolve.

3 Adaptive Strategies

By leveraging the power of AI, ICANN can develop adaptive strategies that stay ahead of emerging security challenges, safeguarding the integrity of the DNS ecosystem.

CLOUD COMPUTING AND DNS

Scalability:

Cloud services enable rapid scaling of applications and infrastructure. DNS must accommodate dynamic changes in traffic patterns and resource allocation to ensure seamless resolution.

Redundancy

ICANN faces complex questions about how to effectively integrate blockchain-based solutions into the existing DNS infrastructure, while ensuring seamless compatibility and universal accessibility.

Security

Cloud environments introduce new security challenges, such as DNS-based attacks and data breaches. DNS security mechanisms must evolve to mitigate emerging threats and protect sensitive information. Cloud environments introduce new security challenges, such as DNS-based attacks and data breaches. DNS security mechanisms must evolve to mitigate emerging threats and protect sensitive information.

ICANN's Strategies for Adapting to Emerging Technologies

1

Policy Adaptation

ICANN actively monitors technological advancements and formulates policies to address emerging challenges, such as AI-driven domain abuse or blockchain-based Top-Level Domains (TLDs).

2

Collaboration and Multistakeholder Approach

ICANN engages with governments, industry, academia, and civil society, leveraging a multistakeholder approach to inform policy decisions and balance innovation with stability.

3

Agile Governance

ICANN's adaptive governance model enables dynamic responses to disruptive technologies, allowing the organization to swiftly address challenges like AI influence or crypto-based frauds.

4

Regular Review and Adaptation

ICANN continuously reviews its policies and regulations to align with technological shifts and user needs, ensuring that the DNS ecosystem remains up-to-date and responsive to evolving requirements.

Balancing Innovation and Stability in the DNS Ecosystem



Fostering Innovation

ICANN's strategic approach aims to strike a delicate balance between embracing technological advancements and maintaining the stability and reliability of the DNS, ensuring the domain name system remains responsive to the evolving needs of users and the industry.



Ensuring Security

By proactively addressing emerging threats and leveraging the capabilities of cutting-edge technologies, ICANN is committed to safeguarding the DNS infrastructure and preserving the overall integrity of the domain name system.



Collaborative Governance

ICANN's multistakeholder model fosters a collaborative environment, enabling the organization to navigate the complexities of emerging technologies and make informed decisions that consider the diverse perspectives of all stakeholders.



Conclusion: Navigating the Future of DNS

Navigating the Future of DNS

As the digital landscape continues to evolve, ICANN's proactive approach to emerging technologies and their impact on DNS management remains crucial as Commitment to Innovation.

<https://www.icann.org/en/announcements/details/2009-09-30-01-en>
[cann-ceo-talks-about-the-new-affirmation-of-commitments-30-9-2009-en](https://www.icann.org/en/announcements/details/2009-09-30-01-en). By embracing innovation, prioritizing security, DNS Security Extensions (DNSSEC)

<https://www.icann.org/resources/pages/dnssec-2012-02-25-en>), and fostering collaborative governance, About the GAC

QUESTIONS&FEEDBACK

Q&A



Your Company Name