VISHVASYA-BLOCKCHAIN TECHNOLOGY STACK

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Will the Minister of Electronics and Information Technology be pleased to state:

(a)   the details of specific use cases where Vishvasya-Blockchain Technology Stack and NBFLite platform have been applied or are in the process of implementation across various Government departments;

(b)   the extent of collaboration between academia, Startups, and Government agencies in the research and development of blockchain solutions under the National Blockchain Framework, and the impact of this collaboration on patent generation and innovations, the details thereof; and

(c)   the future roadmap for scaling blockchain-based citizen-centric applications across States and departments, and the expected timeline for the National Blockchain Framework to be fully operational nationwide, the details thereof?

ANSWER

MINISTER OF STATE FOR ELECTRONICS AND INFORMATION TECHNOLOGY
(SHRI JITIN PRASADA)

(a) to (c): Blockchain is a technology suitable for developing applications with transactional data stored in distributed ledger across network of nodes. It provides time sequenced and tamper resistant storage with audit trail for future verification. Hence this technology has the potential to provide better accountability in any digital system involving public transactions. Vishvasya-Blockchain Technology Stackis a permissioned Blockchain platform which may be used for development and deployment of Government Services which need secured and verifiable records of transactions.

It is more suitable for permissioned Blockchain applications where only selected or authorized users can access the Blockchain network. The technology stack may be used in various sectors, such as healthcare, education, agriculture, administration, etc.

The pilot implementation of the few applications has already been completed which include:

  i.   Praamaanik- Solution to verify mobile app origin

  ii.   Property Chain- Solution for recording property transactions and its verification for the State of Karnataka and Jharkhand

  iii.   Certificate Chain- Blockchain based solution for education certificates for Central Board of Secondary Education (CBSE) for the State of Karnataka

  iv.   eStamps- Solution to provide a tamper-proof & secure record of eStamp transactions, etc. with the Government financial agencies.

NBFLite is a light version of Vishsvasya. It is useful for rapid prototyping, research and experimentation for academia and startups. NBFLite is available for download from https://blockchain.meity.gov.in after registration.

National Blockchain Framework (NBF) was launched on 4th September, 2024 to offer Blockchain-as-a-Service (BaaS). NBF supports distributed infrastructure, smart contracts, security, privacy, interoperability and development & deployment of permissioned blockchain based applications.

NBF is a permissioned blockchain platform developed through collaboration between researchers, academic institutions and government agencies. These include Centre for Development of Advanced Computing (C-DAC)- Hyderabad, Mumbai and Pune; Institute for Development and Research in Banking Technology (IDBRT) Hyderabad; IIT Hyderabad; Society for Electronic transaction and Security (SETS) Chennai;National Informatics Centre (NIC)/National Informatics Centre Services Incorporated (NICSI); and IIIT Hyderabad.

These institutions have worked together to design the National Blockchain Framework (NBF) as a permissioned Blockchain platform with controlled access to ensure the security, privacy and confidentiality of data. The best practices such as use of data encryption, proving the existence of data without revealing the data, and indigenous certifying authority, etc. have been implemented in the design.

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