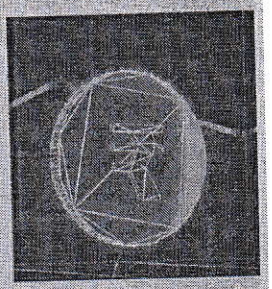
Digital currency: RBI for centralised database, not blockchain tech

Our Bureau
Mumbai



The Reserve Bank of India prefers a centrally-controlled, conventional database infrastructure for CBDC (central bank digital currency) instead of DLT (distributed ledger technology)-based infrastructure citing the latter's limitations.

While both conventional and DLT-based infrastructures store data multiple times and in separate physical locations, the key difference is in how data is updated. In a conventional database, data is stored over multiple physical nodes, controlled by one authoritative central entity, which ensures resilience.

On the other hand, in a DLT-based system, the ledger is usually managed jointly by multiple entities in a decentralised manner and each update needs to be harmonised amongst the nodes of all entities. This consensus mechanism requires additional overheads lowering lower volumes of transactions, the RBI said in a CBDC concept note, issued in October.

"Given the above, DLT at this point of time, is not considered a suitable technology except in very small jurisdictions, given the probable low volume of data throughput," the central bank said.

However, DLT could be considered for the indirect or hybrid CBDC architecture, the RBI said, adding that it may also be possible that some layers of the CBDC technology stack can be on the centralised system and the remaining on distributed networks.

CYBER RISKS

In terms of cyber risks, both infrastructures pose challenges as public blockchains preserve transparency but don't provide security. On the other hand, centralised systems are more secure but have the same cyber security concerns as existing FPS (Fast Payment Systems), it said.