

each time a bitcoin transaction occurs, it is secured via elliptical-curve cryptography (ECC), and other innovative technologies. It, therefore, serves as a public ledger that lists out digital currency transactions that cannot be tampered with. Although this ledger might seem quite similar to accounting ledgers maintained by banks and other financial institutions, it is much more advanced and secure due to the strict verification and validation process. As the contents of a block are under continuous scrutiny and may or may not be validated, it is much more secure and consistent. Therefore, Blockchain is a unique, transparent, and practical solution that eliminates concerns such as double-spending, tampering, fraud, etc... through strict validation of blocks.

### **C. Isolation of Network and Application levels through effective segregation**

This refers to the presence of a single Merkle root included in the header, which is used for referencing prior to performing the proof-of-work calculation on the header. This provides excellent layer isolation since the Merkle root contains no information whatsoever about the block contents (or even about the size, format, past or present location of the file contained in the block).

Now, that is the heart of the matter, or to be more precise, the heart of two distinct matters. The Bitcoin protocol comprises of not one, but two highly innovative technologies. The first one related to networking technology, which involves the creation and processing of hashes. The second one is application-based technology, which refers to the creation and processing of transactions. That makes it flawless and reliable. Additionally, the isolation mechanism is extremely effective and isolates the processing of the hashes from the processing of the transactions. Other aspects such as the P2P networking clearly relate to network-level operations but are not necessarily related to the processing of hashes.