Blockchain Platform Comparison and Report

# Comparison Table

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Blockchain Name | Type | Consensus Mechanism Used | Permission Model | Speed / Throughput | Smart Contract Support | Token Support | Typical Use Case | Notable Technical Feature |
| Ethereum | Public | Proof of Stake (Casper) | Open | 15–30 TPS (Ethereum Mainnet) | Yes (Solidity) | Yes (ETH) | Decentralized Applications (DApps) | Smart Contract Platform |
| Hyperledger Fabric | Private | Pluggable (e.g., Raft, Kafka) | Permissioned | 1000+ TPS | Yes (Go, JavaScript) | No Native Token | Enterprise Supply Chains | Channel-based Privacy |
| R3 Corda | Consortium | Notary-based (can be pluggable) | Permissioned | 170+ TPS (depending on setup) | Yes (JVM Languages) | No Native Token | Inter-bank Financial Transactions | Point-to-Point Communication |

# Short Report

Ethereum, Hyperledger Fabric, and R3 Corda represent different blockchain paradigms. Ethereum is a public blockchain using Proof of Stake, offering decentralized, open participation but lower throughput (~30 TPS). It supports smart contracts in Solidity and has a native token (ETH), making it ideal for DApps.  
  
Hyperledger Fabric is a private blockchain with pluggable consensus and high throughput (1000+ TPS). It supports smart contracts in Go/JavaScript but has no native token. Its permissioned model and privacy via channels suit enterprise use cases like supply chain networks.  
  
R3 Corda, a consortium blockchain, emphasizes privacy and scalability. It uses a notary mechanism instead of traditional consensus and allows smart contracts in JVM languages. With no native token, it suits financial applications among known entities.  
  
For a decentralized app, Ethereum is best due to its open nature and smart contract ecosystem. For a supply chain among known partners, Hyperledger Fabric provides speed and privacy. For inter-bank applications, R3 Corda is optimal, offering secure, permissioned, point-to-point data sharing.