# Blockchain Platform Comparison and Report

## Blockchain Platform Comparison

| Blockchain Name | Type | Consensus Mechanism | Permission Model | Speed | Smart Contract Support | Token Support | Typical Use Case | Notable Technical Feature |
|---|---|---|---|---|---|---|---|---|
| Ethereum | Public | Proof of Stake (PoS) | Open | 30 TPS | Yes | Native (ETH) | DApps, DeFi, NFTs | EVM, large developer ecosystem |
| Hyperledger Fabric | Private | Pluggable (e.g., Raft) | Permissioned | 1,000 TPS+ | Yes | No native token | Supply chain, enterprise apps | Modular architecture, private data |
| R3 Corda | Consortium | Notary (various options) | Permissioned | 170 TPS | Yes | No native token | Financial transactions, trade finance | Peer-to-peer design, legal contracts |

## Short Report

The selected blockchains—Ethereum, Hyperledger Fabric, and R3 Corda—serve different needs based on their architecture and consensus models.

Ethereum, as a public blockchain, is decentralized and open, offering a strong foundation for decentralized applications (dApps) through its native support for smart contracts using Solidity. However, it is constrained by limited throughput and public visibility, making it less suitable for privacy-sensitive enterprise use cases.

Hyperledger Fabric, a private blockchain, offers a permissioned environment with modular consensus and high throughput. It supports smart contracts (chaincode) in common programming languages and is well-suited for enterprise use cases like supply chain management due to its privacy controls and scalability.

R3 Corda, operating as a consortium blockchain, is tailored for inter-organizational workflows like inter-bank transfers. It emphasizes peer-to-peer transactions, strong privacy, and legal contract alignment, though it does not use a traditional blockchain structure or native token.

Platform Recommendations:
- For a decentralized app, choose Ethereum for its openness and smart contract capabilities.
- For a supply chain network among known partners, Hyperledger Fabric is optimal due to its high throughput and permissioned model.
- For an inter-bank financial application, R3 Corda stands out with its privacy-first design and legal contract compatibility.