📊 Blockchain Platform Comparison Table

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 (Ethereum 2.0)	Open	~30 TPS	Yes (Solidity, Vyper)	Native (ETH, ERC-20)	Decentralized Applications, DeFi	Large developer ecosystem, robust smart contracts
Hyperledger Fabric	Private	Pluggable (Raft, Kafka, etc.)	Permissioned	Up to 3000 TPS	Yes (Go, JavaScript, Java)	No native token	Enterprise supply chains, private operations	Modular architecture, chaincode in multiple languages
Quorum	Consortium	Istanbul BFT, Raft	Permissioned	Hundreds of TPS	Yes (Solidity)	Supports ERC-20 tokens	Interbank settlements, enterprise networks	Enterprise-grade Ethereum fork with privacy enhancements

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📝 Short Report

Comparison Report:

Ethereum, Hyperledger Fabric, and Quorum serve distinct purposes in the blockchain ecosystem. Ethereum, a **public blockchain**, supports open and decentralized applications with strong smart contract functionality. It is widely adopted but limited in transaction speed (~30 TPS).

Hyperledger Fabric, a **private blockchain**, is designed for high-throughput enterprise use cases. It supports modular pluggable components and multiple programming languages for smart contracts. Its permissioned nature ensures secure, closed-loop transactions.

Quorum, a **consortium blockchain**, blends Ethereum's flexibility with enterprise-specific enhancements like private transactions and faster consensus. It maintains Ethereum compatibility and supports Solidity smart contracts while ensuring better control and privacy.

Recommendations:

- For a **decentralized app**, Ethereum is ideal due to its openness and mature ecosystem.
- For a **supply chain among known partners**, Hyperledger Fabric is optimal due to its high performance and permissioned access.
- For an **inter-bank financial application**, Quorum is preferred due to its privacy features and performance tailored for financial institutions.