Blockchain Platform Comparison

Blockchain Name	Type	Consensus Mechanism	Permission Model	Speed / Throughput	Smart Contract Support	Token Support	Typical Use Case	Notable Technical Feature
Ethereum	Public	Proof of Stake (PoS)	Open	~30 TPS (Layer 1)	Yes (Solidity)	Native (ETH)	Decentralized Apps (dApps)	Smart Contract & dApp ecosystem
Hyperledger Fabric	Private	Pluggable (e.g., Raft)	Permissioned	1000+ TPS	Yes (Go/Java Chaincode)	No	Enterprise Internal Applications	Modular & Pluggable Architecture
R3 Corda	Consortium	Notary-based Consensus	Permissioned	100–200 TPS	Yes (JVM-based)	No	Inter-bank Financial Systems	Point-to-point Privacy

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Short Report

Comparison and Use Cases

Ethereum, as a public blockchain, uses Proof of Stake for consensus, offering openness and robust smart contract support with native token utility. However, it has limited throughput (~30 TPS), which can be a bottleneck for high-performance apps without Layer 2 scaling.

Hyperledger Fabric is a permissioned private blockchain designed for enterprise use. It uses pluggable consensus mechanisms (e.g., Raft), supports high throughput (1000+ TPS), and allows chaincode-based smart contracts. It's ideal for controlled networks due to its modularity and strong access control.

R3 Corda, a consortium blockchain, emphasizes privacy and direct transactions between participants. It uses notary-based consensus and supports smart contracts on the JVM. It doesn't use traditional tokens, making it suitable for regulated environments like inter-bank financial systems.

Platform Recommendations:

- **Decentralized App:** Ethereum – due to its open nature, smart contract capabilities, and large developer ecosystem.
- **Supply Chain Network:** Hyperledger Fabric – offers permissioned access, high throughput, and modular support for private enterprise networks.
- **Inter-bank Financial Application:** R3 Corda – prioritizes privacy, direct communication, and compliance features suitable for financial consortia.