

# Blockchain Platforms: A Technical Comparison

This report compares Ethereum, Hyperledger Fabric, and R3 Corda. We will examine their technical capabilities. We will also highlight their strengths and weaknesses. These platforms are crucial for decentralized applications.

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# Ethereum: Public and Permissionless

Ethereum uses Proof of Stake (PoS) for consensus. This makes it more scalable. It is also energy-efficient. Developers use Solidity for smart contracts. This enables decentralized applications (dApps). Its main chain processes around 30 transactions per second. All data is globally visible.





# Hyperledger Fabric: Private & Permissioned



## Consortium Framework

Hyperledger Fabric is a Linux Foundation framework. It offers a modular architecture. This includes pluggable consensus and identity.

## Smart Contracts

It supports Chaincode for smart contracts. Developers can use Go, Java, or Node.js. This offers flexibility.

## Data Privacy

Data uses private channels. Information is shared on a need-to-know basis. Transactions exceed 1,000 TPS. This is limited by scale.



# R3 Corda: Business-Oriented Blockchain



## Regulated Markets

Corda is open-source. It's built for regulated markets. It ensures high security.



## CorDapps

Smart contracts are "CorDapps". They are written in Java or Kotlin. This simplifies development.



## Notary Service

A notary service validates transactions. Data is peer-to-peer. It's shared on a need-to-know basis. Corda scales to thousands of TPS. Its network size can be a limiting factor.



BetaNet



## Conclusion: Choosing the Right Platform

Ethereum

General-purpose dApps

Open, public network

Hyperledger Fabric

Enterprise-grade private

Modular, private channels

R3 Corda

Regulated industries

Data privacy, peer-to-peer

There is no "one-size-fits-all" solution. Platform choice depends on specific requirements. Consider your needs carefully. Each platform has distinct advantages. Tailor your decision to your project.