



Amazon Managed Blockchain

Accelerating blockchain experimentation & adoption

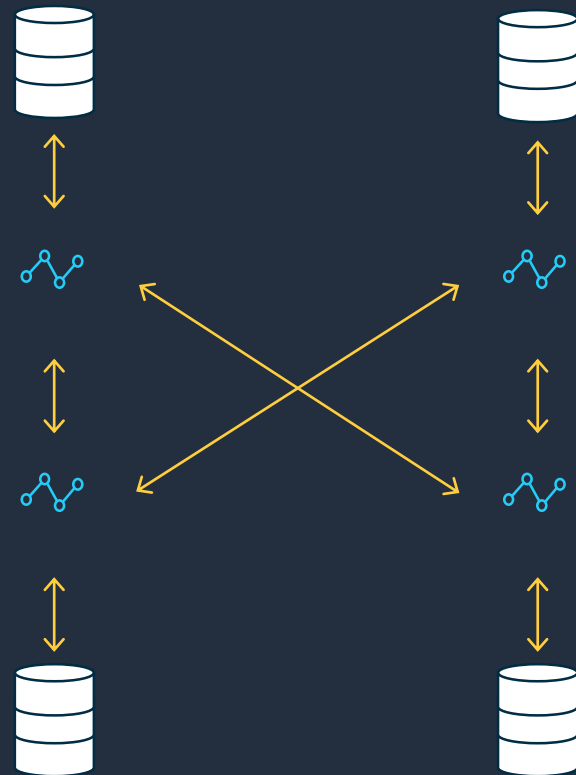
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Blockchain Specialist Solutions Architect

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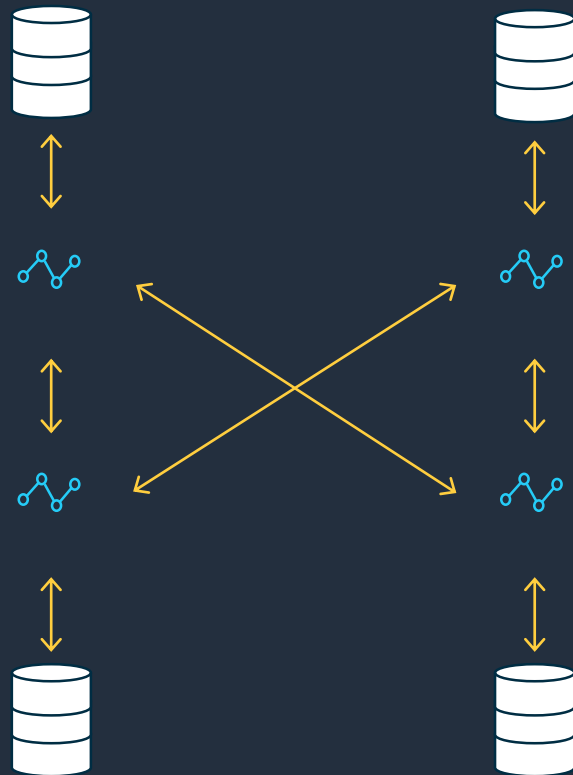
- Introduction to Amazon Managed Blockchain
- Getting Started With Ethereum
- Getting Started With Hyperledger Fabric
- How AWS Customers Are Using Amazon Managed Blockchain
- Q&A

Common use cases



Multi-party businesses

Common use cases



Financial Settlement



Provenance
Track-and-trace



Identity
Portable verifiable credentials

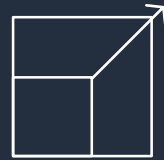


Fractional Ownership
Digital Rights Management

Challenges with existing blockchain solutions



Setup is hard



Hard to scale



Complicated
to manage



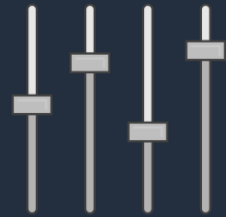
Expensive

What is Amazon Managed Blockchain?



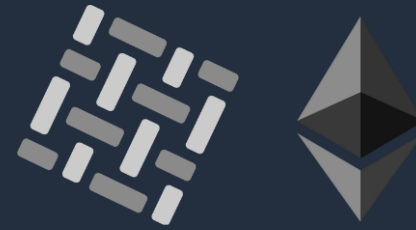
Amazon Managed Blockchain is a fully managed service that makes it easy to create and manage scalable blockchain networks using popular open source frameworks:
Hyperledger Fabric and Ethereum

Amazon Managed Blockchain features



Fully managed

Create a blockchain network in minutes



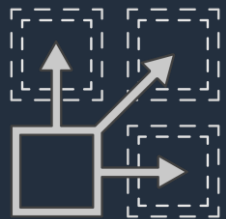
Open-source variety

Support for two frameworks



Decentralized

Democratically govern the network



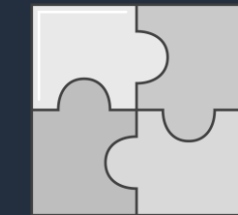
Reliable & scalable

Backed with Amazon technology



Low cost

Only pay for resources used



Integrated

Easily use with AWS services

Private and public blockchains

Private

- Better when participating organizations are known in advance
- Tend to offer more advanced privacy features, with *permissioned* access
- Applications tend to be less decentralized than their public counterparts
- Support higher transaction rates than are typically possible with public blockchains
- Can be a good option for enterprises that need the practical benefits of decentralization now

Public

- Participants can be anonymous and aren't necessarily identified in advance
- Enable *permissionless* applications that anyone can use
- Enable *unstoppable* applications that run autonomously, without depending on private infrastructure
- Enable easy access to other data sources on the blockchain
- Are currently enabling the development of decentralized finance (DeFi)

Private and public options on Amazon Managed Blockchain

Hyperledger Fabric

- Version 1.4 LTS
 - Support for LevelDB and CouchDB
 - Anchor peers
 - Private data collections
- Improvements
 - Integration with AWS data and control plane for more stability and scalability
 - Improved trust model with AWS Key Management Service (KMS)
 - Governance features for adding and removing members
 - Automatic synchronization of channel peers
 - Automatic propagation of fabric identities
- Frequent improvements

Ethereum

- Dedicated Geth nodes managed by AWS
- Provision new nodes in minutes on mainnet, Ropsten and Rinkeby
- Faster sync times
- High availability through quick failover of faulty nodes
- Auto-scaling node storage

Ethereum powers rapidly emerging use cases

Non-Fungible Tokens (NFTs)



Terra Virtua



OpenSea



Enjin

Examples

Tokenization of unique or scarce assets

Impact

Enables the creation of blockchain-based digital tokens that represent a piece of unique media, content, physical item, etc.

Key Characteristics

Digital scarcity, easily transferable, easy to verify authenticity and ownership

Key Use Cases

Digital art, in-game items (video games), event ticketing, licensed digital collectibles

Decentralized Finance (DeFi)



Maker



Compound



Aave

Open, decentralized financial services

Allows borderless access to decentralized financial services like lending, high-yield savings, and asset exchange on the blockchain

Open & permissionless, disintermediated, and highly composable financial services

Lending, stablecoins (currency-pegged cryptocurrency), asset exchange, savings, etc.

Ethereum (Public)

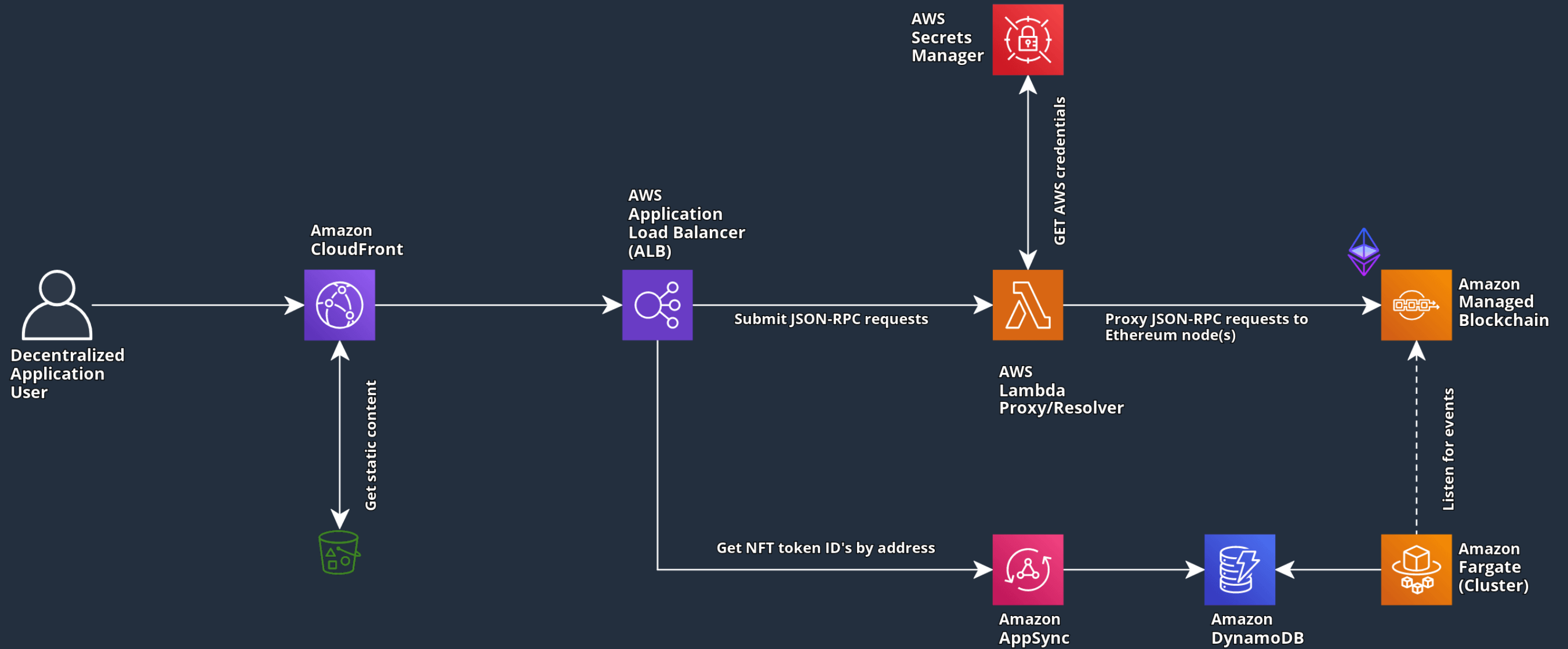
How to get started



How to create an Ethereum full node in the AWS Console



Managed Ethereum Reference Architecture



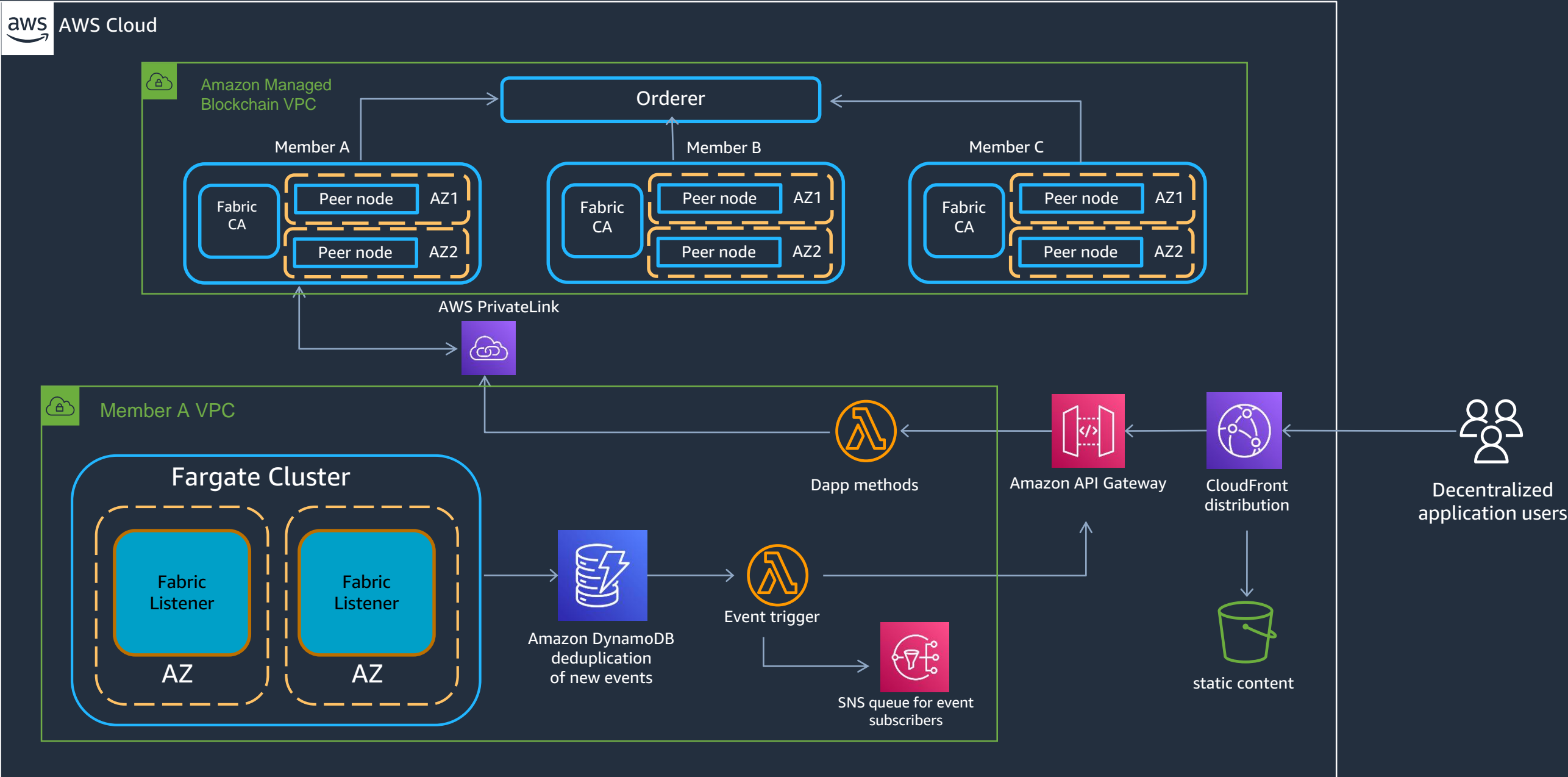
Hyperledger Fabric (Private)

How to get started

How to create a Hyperledger Fabric network in the AWS Console



Managed Hyperledger Fabric Reference Architecture



Customer References

Nestlé tracks Single Origin Coffee on Amazon Managed Blockchain

Nestlé is committed to bringing transparency into the origin and quality of the ingredients used in their products with end-to-end visibility into their supply chain for their single origin coffee.

Solution

Nestlé built a supply-chain asset-tracking smart contract to track single origin coffee from farm to customer on Amazon Managed Blockchain network to capture events as the coffee moves through the supply chain.

Impact

Nestlé and their customers can now track the high quality single origin coffee from farmer, logistics, distribution center to customer. Nestlé now has a platform and are expanding to include other brands in their portfolio.



Contura Energy tracks Letters of Credits for Coal on Amazon Managed Blockchain

Contura Energy is a Coal supplier with affiliate mining operations across major coal basins in the United States. They picked Amazon Managed Blockchain to track and reliably supply coal to produce steel to their customers globally.

Solution

Contura processes 'Letter of Credit' – a Treasury Finance mechanism, end to end on Amazon Managed Blockchain. All of the terms of 'Letter of Credit' is automatically extracted and inserted into the smart contract. Members can independently validate these documents as tamper-resistant originals.

Impact

With a Blockchain based 'Letter of Credits' platform, Contura has gained operational efficiency and reduced risk to themselves, their banking partner and customers through automation and a reduction of manual processes. Contura also expects reduce time to recover payment from their customers.



Amazon Managed Blockchain customers

SGX 



 OpenZeppelin

 Curvegrid

 Compound

healthdirect

 Liberty Mutual.
INSURANCE

verizon✓

 GE Aviation


workday®

CHANGE
HEALTHCARE

PHILIPS



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