Taking on Challenges of Enterprise Blockchain Infrastructure
**Blockchain Trends - From Promise to Reality**

- **55%** of CIOs consider Blockchain as their #1 priority.

**Deloitte**

- **83%** of respondents indicated their companies will lose competitive advantage if they don’t adopt Blockchain.

<table>
<thead>
<tr>
<th>Strategic Priority</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blockchain in Production</td>
<td>39%</td>
</tr>
<tr>
<td>Building Blockchain Teams</td>
<td>82%</td>
</tr>
<tr>
<td>The Value Chain</td>
<td>85%</td>
</tr>
<tr>
<td>Blockchain Investment CAGR (2019-27)</td>
<td>56.1%</td>
</tr>
</tbody>
</table>
Let's talk about challenges.

- Decentralization is missing
- Time to Market
- Cost of Setup and Ownership
- Complexity of Scaling – Consortium Networks
- Complex to understand and adopt
- Lack of know-how and expertise
- Lack of standards for security and optimization
... and again, never underestimate the costs
What’s needed – Blockchain Infra Automation

- The automation should be for, in-depth configurations of protocols, monitoring of node and chain health, easy smart-contract design and management tools etc.
- Creating your consortium in few button clicks, without losing the decentralisation.
- Decide your infrastructure with no compromise, your cloud or on-premise. Every stakeholder in your consortium gets to make their own decision.
- Best in class security practices standard across all deployments.
- Analytics and Monitoring which can scale with your decentralised deployments.
- Control on costs with auto optimisations and scaling of the networks.
A LOW CODE BLOCKCHAIN AS A SERVICE ENTERPRISE PLATFORM

Supports Multiple Blockchain Protocols
100% Automated and No Code

Heterogenous Cloud Deployments
Supports all major cloud providers including Private Cloud and On-Premise

Blockchain Analytic and Real time Monitoring
Advance Analytics and Monitoring Alerts and Notifications

Web Services for Faster DApp Development
CI/CD Integrations to Services like IoT, Governance, Storage, Secure Vault etc

>60% Cost Savings
>90% Faster Time to Market
>15,000 Developers on Board
A structured platform approach to deliver operational excellence across Blockchain Networks and Decentralized Applications.
Enterprise-grade file system for Distributed Storage (ZDFS)

Advanced Blockchain Data Query API

Service APIs with secure RPC endpoints

CLI tools and interfaces for seamless integrations with legacy CI/CD

Enterprise-grade infrastructure for Permissioned Protocols
Zeeve for Hyperledger Fabric

- Network Management – Create, Scale & Onboard
- Node Management – add, stop, start
- Monitoring – Network & Node Level
- Chaincode packaging and deployment
- CLI Based operations for integrations with tools
- Alerts & Logging for the blockchain Services
- Fully flexible Fabric Topology – Organization ACLs
- 24x7 Support for Zeeve Blockchain Devops Experts
Zeeve with CI-CD

- Code Repositories integrated with a CI-CD layer
- CD uses Zeeve CLI to package smart-contract deployment
- Zeeve deploys smart-contracts to the intended players of the consortium as intended.

Smart-contract Deployment to all your stakeholders
LEARNING EVERY DAY

Zeeve BaaS Platform is trusted by 15,000+ developers and 25+ Enterprises and Blockchain Consortiums
CASE STUDY

TradeReboot – Trade Finance Consortium

Challenges

- Identify the most suitable Blockchain protocol to achieve the business goals.
- Enterprise grade network that has high availability, security and performance.
- Cloud agnostic deployment of nodes so that third party stakeholders are not locked to a single cloud service provider.
- Continuous monitoring of the deployed network as a service to reduce upfront and ongoing costs.
- An enterprise level support the Blockchain network.

Zeeve Approach

- AWS cloud architecture including node application instances, RDS for off-chain database, security rules, load balancers and the backup plan.
- Build the Trade Finance DaApp and Smart Contracts
- Governance smart contract to govern the rules of the consortium
- Deployment of HyperLedger Fabric 2.2 on Kubernetes cluster on AWS
- Enabled the invitation module to on-board the initial users on the platform.

Results

- Seamless Onboarding – Zeeve helped quick and hassle-free onboarding of users who wanted to host their own nodes.
- Cost Saving of ~45% – Zeeve helped optimized setting up of the nodes and network instances.
- Faster time to market by ~80% – Zeeve accomplished the complex deployment of trade finance network of Hyperledger Fabric on AWS in less than 30 minutes.
- Proactive Monitoring – Zeeve features advance analytics and proactive monitoring of Blockchain and cloud resources
- 24/7 Support – Zeeve provided DevOps experts and Blockchain engineers for initial deployment architecture and ongoing management of the network.
CREATE AND SCALE NETWORKS

Network Configurations - BYOC-AWS

Home / Network / My Network / Add Organisation

* Organisation Details

<table>
<thead>
<tr>
<th>org1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certificate Authority (CA)</td>
</tr>
<tr>
<td>Admin Username:</td>
</tr>
<tr>
<td>org1</td>
</tr>
<tr>
<td>Admin Password:</td>
</tr>
<tr>
<td>*********</td>
</tr>
<tr>
<td>Enable CA Persistent Volume</td>
</tr>
</tbody>
</table>

* Peer 1

<table>
<thead>
<tr>
<th>Level DB</th>
<th>Cbd-Db</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔️</td>
<td></td>
</tr>
<tr>
<td>Enable Peer Persistent Volume</td>
<td></td>
</tr>
<tr>
<td>Volume Size: 10 GB</td>
<td></td>
</tr>
</tbody>
</table>

* CSR Details (Optional)

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Organization Key</th>
<th>Country</th>
<th>State</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Blockchain</td>
<td>India</td>
<td>UK</td>
<td>Delhi</td>
</tr>
</tbody>
</table>

* CSR Details (Optional)

<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>John</td>
<td>35</td>
</tr>
</tbody>
</table>

* Connection Profile

<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alice</td>
<td>25</td>
</tr>
</tbody>
</table>

* Blockchain Data

<table>
<thead>
<tr>
<th>Network Id</th>
<th>mychannel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consensus</td>
<td>ethtest</td>
</tr>
<tr>
<td>Address/Bytes</td>
<td>3</td>
</tr>
<tr>
<td>JoinChannel</td>
<td>true</td>
</tr>
<tr>
<td>MaxRegCount</td>
<td>2</td>
</tr>
<tr>
<td>Batch/Timeout</td>
<td>1</td>
</tr>
<tr>
<td>Peer/ModeBytes</td>
<td>1</td>
</tr>
</tbody>
</table>

* Download
AS FLEXIBLE AS IT GETS
STAY IN CONTROL
Zeeve CLI, CD PIPELINES

Zeeve continuous deployment interface

* `options: -h, --help display help command`

```
lakshaygubantu:$ zeeve fabric chaincode -help
Usage: zeeve fabric chaincode [options] [command]

Options:
  -h, --help display help command

Commands:
  package [options] [command]
  approve [options] [command]
  deploy [options] [command]
  help [options] display help command
```

```
lakshaygubantu:$ zeeve fabric chaincode install [options] [command]
Usage: zeeve fabric chaincode install [options] [command]

Options:
  -n, --network-id <network-id>  Id of the Network
  -c, --chaincode <chaincode>  chaincode name
  -v, --version <version>  chaincode version
  -o, --org <org>  channel organisation
  -p, --peer-urls <peer-urls>  channel peer urls
  -s, --sequence <sequence>  channel name to approve chaincode
  -a, --init-args <init-args>  Init method arguments ex: "marblel","blue","35","tom"
  -m, --init-method <init-method>  method to display help
  -h, --help display help command
```

```
lakshaygubantu:$
```
WHAT’S COMING

- Private Data Collections Support
- HSM Based Key Management
- **DMZ Based Security Architecture and High Availability Setup of Nodes**
- Logging Support
- Scaling Resources in Clusters
- Allow Private Node Connections with AWS Backbone
- Managed Node Deployment
Zeeve Deeptech Pvt Ltd
1283, ATS Greens, Sector-93A
Noida, India 201304
+91 98185 92244

Zeeve Technologies Ltd.
2001, Regal Tower, Business Bay,
Dubai, UAE
+971 50 245 7978

Zeeve Inc.
395 Santa Monica Place, Unit 308,
Santa Monica, California – 90405
+1 (702) 979 5012

Email: success@zeeve.io
Email: ravi@zeeve.io

http://www.zeeve.io