



第九届中国系统架构师大会  
SYSTEM ARCHITECT CONFERENCE CHINA 2017

简化摘要版

# 构建企业级区块链生态

闫莺

主管研究员  
微软亚洲研究院

Supply-Chain demo Video:

<https://www.youtube.com/watch?v=V-CuC76zm5A>



Microsoft

# 微软区块链生态

SACC2017

# 区块链外围服务 + 区块链本身领先技术



数据服务



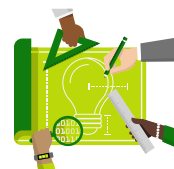
业务管理



身份



本地业务



商用app



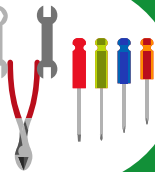
安全



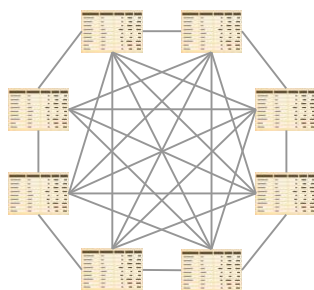
隐私



运维



工具



# Microsoft Azure | Open Cloud

Hyper Scale

Enterprise Grade

Hybrid

## Azure BaaS



## Infrastructure



+Hundreds of community supported images on VM Depot

## Applications



### Web App Gallery

Dozens of .NET & PHP CMS and Web apps

## Databases



## Management



## App Frameworks



## Clients



# Azure上轻松的部署已有区块链系统

azuremarketplace.microsoft.com/en-us/marketplace/apps/search=blockchain&page=1











Azure Marketplace Browse Sell Learn Search Marketplace

Product Category blockchain Reset filters

Product results (16)

Compute  
Networking  
Storage  
Web + Mobile  
Databases  
Intelligence + analytics  
Internet of Things  
Enterprise Integration  
Security + Identity  
Developer tools  
Monitoring + Management  
Add-ons  
Containers  
Blockchain  
Azure Active Directory apps

Refine  
Trials  
☐ Test Drive  
☐ Free software trial  
Pricing Model  
☐ Free  
☐ Pay as you go  
☐ Bring your own license (BYO)

 <b>Azure Blockchain Service</b> By Microsoft Deploy and configure a blockchain network in minutes. Price varies <a href="#">Get it now</a>	 <b>Emercoin Blockchain Engine</b> By Emercoin Blockchain Engine Platform by Emercoin Software plans start at Free <a href="#">Get it now</a>	 <b>STRATO Blockchain LTS</b> By BlockApps Private Ethereum blockchain with RESTful api, management dashboard and developer tools Software plans start at \$0.04/hour <a href="#">Test Drive</a>	 <b>Ethereum Studio - Blockchain Environment</b> By ether.camp Complete package for Ethereum Blockchain development, Software plans start at \$0.001/hour <a href="#">Free software trial</a>	 <b>Azure Multi-Member Blockchain</b> By Microsoft Deploy and configure a multi-member consortium blockchain network. Price varies <a href="#">Get it now</a>
 <b>EEA Single Member Blockchain</b> By Enterprise Ethereum Alliance Deploy and configure a Quorum blockchain in minutes	 <b>Syscoin Full Node</b> By Blockchain Foundry, Inc. Business blockchain platform powered by Syscoin	 <b>BlockApps Multinode Blockchain - Developer Edition</b> By BlockApps Multi Private Ethereum blockchain with RESTful api, explorer, search, analytics and	 <b>DevTest Labs for Blockchain as a Service</b> By Microsoft Create a Lab that contains your team's templates and policies.	 <b>Syscoin API Server</b> By Blockchain Foundry, Inc. Server for using Syscoin's suite of decentralized, blockchain-based business services via HTTP

# Demo Azure上部署以太坊联盟链

The screenshot displays the Microsoft Azure portal interface. The top navigation bar includes the 'Microsoft Azure' logo, a 'Report a bug' button, a search bar, and user information for 'v-guho@microsoft.com'. The left sidebar lists navigation options such as 'New', 'Dashboard', 'All resources', 'Resource groups', 'App Services', 'Function Apps', 'SQL databases', 'Azure Cosmos DB', 'Virtual machines', 'Load balancers', 'Storage accounts', 'Virtual networks', 'Azure Active Directory', 'Monitor', 'Advisor', 'Security Center', 'Cost Management + Billing', and 'Help + support'. The main content area is titled '仪表板' (Dashboard) and features a 'New dashboard' button. It is divided into three sections: 'All resources' (listing various storage accounts and a 'blockchain' resource under 'Data Lake Analytics'), 'Quickstart tutorials' (providing links for Windows/Linux Virtual Machines, App Service, Functions, and SQL Database), and a bottom row with 'Service Health' and 'Marketplace' tiles. A large, semi-transparent watermark 'SAP 2017' is visible across the center of the dashboard.



# Coco 区块链基础平台 (8月发布)



机密性  
隐私性

联盟链

降低企业级区块链集成和使用的门槛，解决企业商用的需求

- 系统的性能
- 隐私
- 联盟组织管理

它集成了最先进的软件架构、密码学、一致性算法以及可信计算的技术有了Coco Framework的技术加成，企业可以放心地开发更多样、更复杂的区块链应用，进而让区块链技术可以真正地在这场数字化革命中得以施展和绽放。



# 企业联盟链挑战

性能



DB-like throughput and latency



隐私性



Richer & flexible confidentiality models



联盟管理

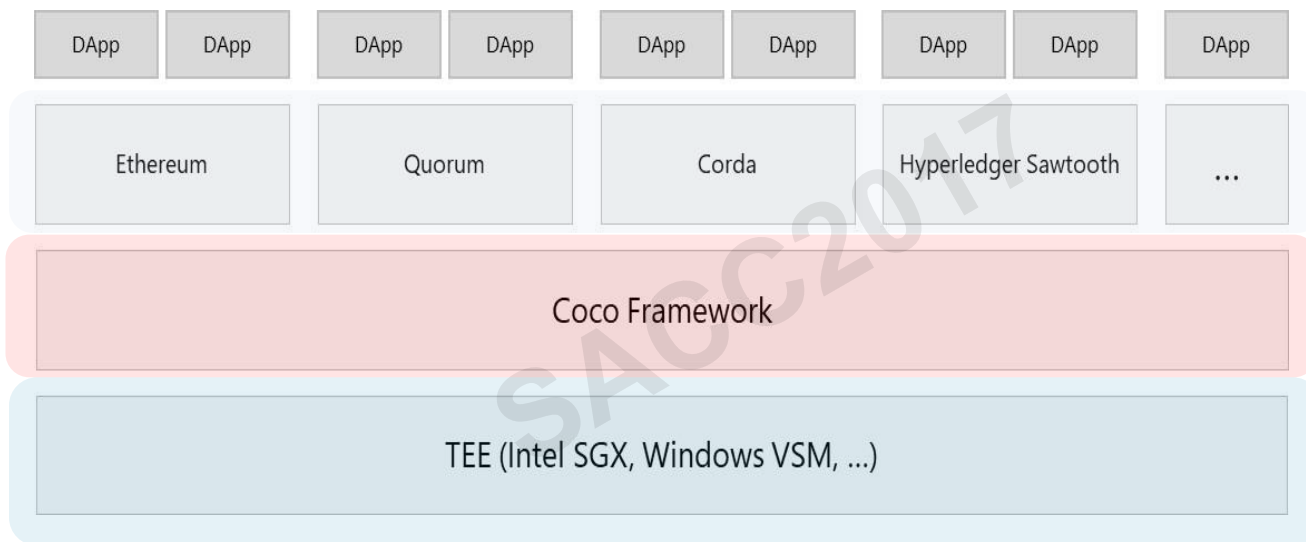


Built-in distributed governance

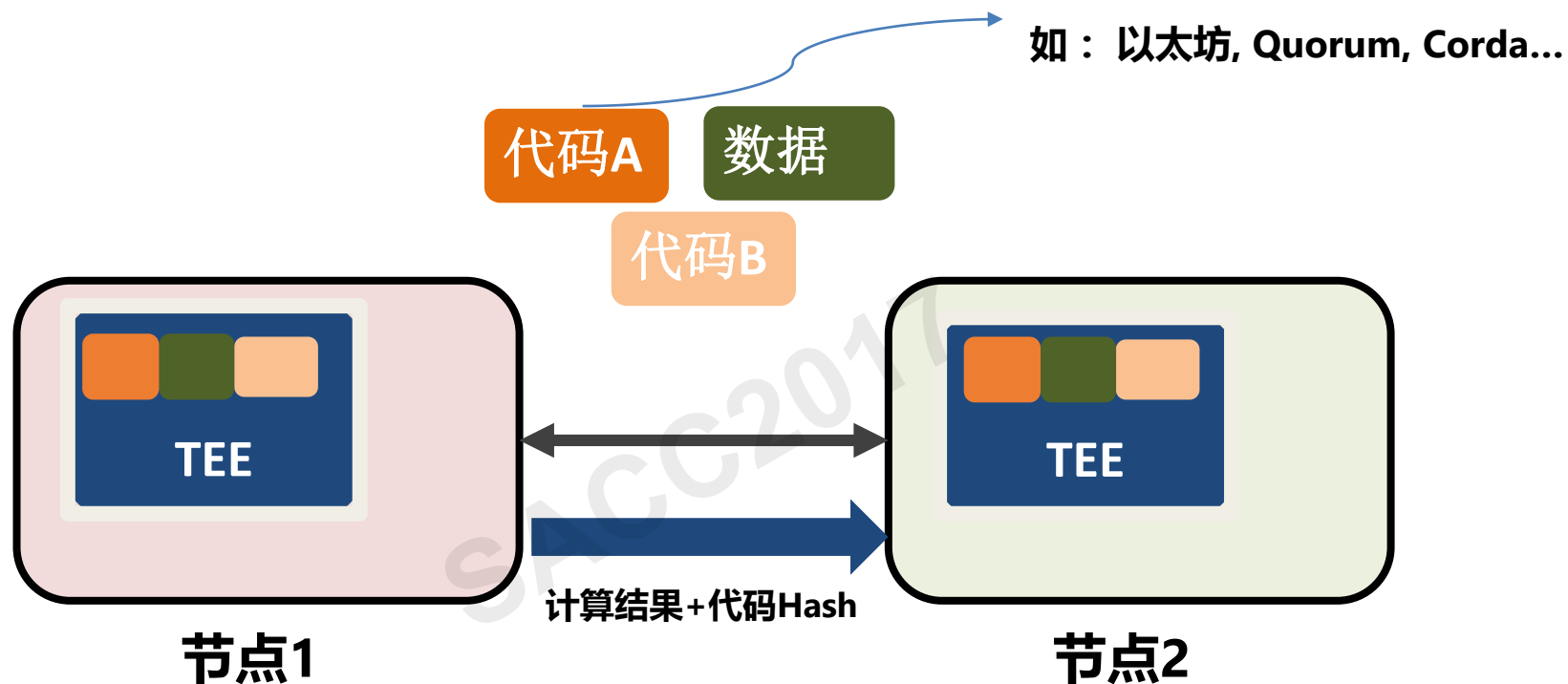


# COCO 概况

**Coco是区块链基础平台，可以和已有区块链协议集成使用。**



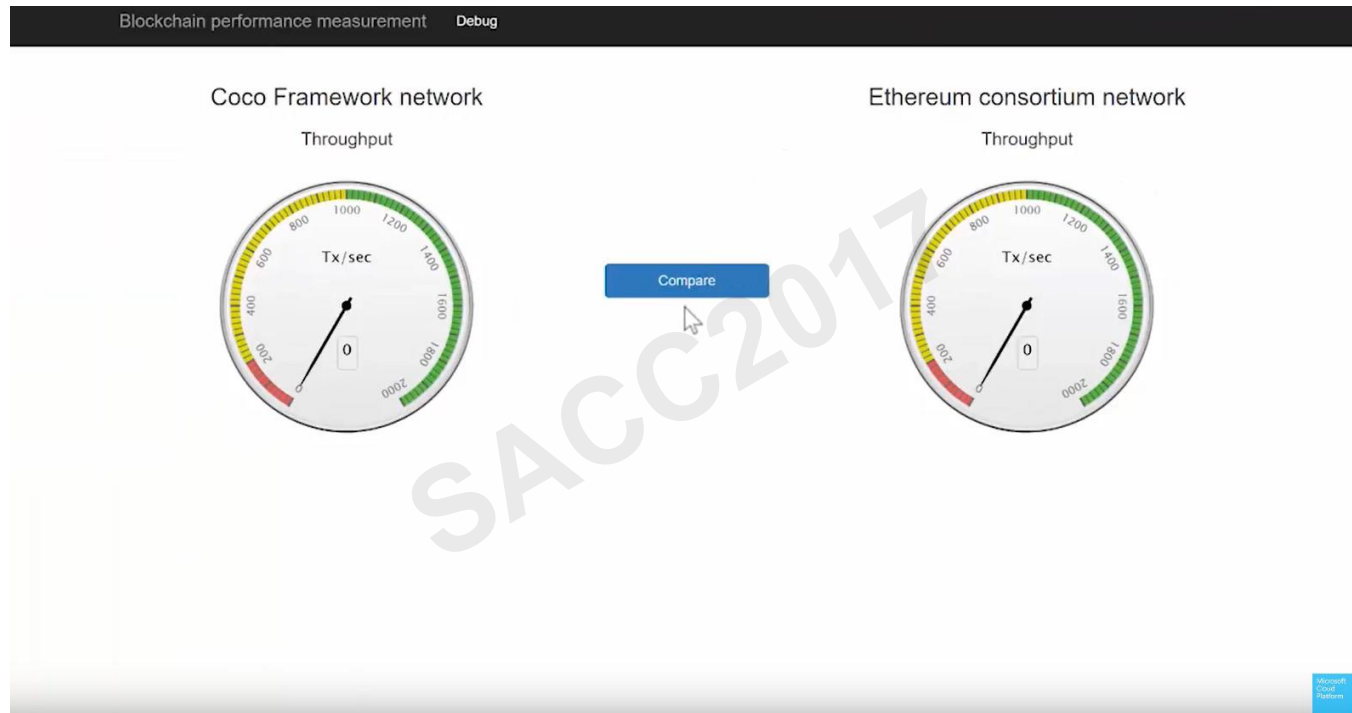
# Coco 如何利用TEE



## 优势：

- 无需重新计算来验证执行结果 – 性能和安全
- 机密性+隐私性

# Demo 性能比较



# Coco计划

- 2017年底开源，支持
- Windows and Linux
- 以太坊（Quorum，Corda.....）
  - 微信公众号：[微软研究院AI头条](#)
  - Coco白皮书：[https://github.com/Azure/coco-framework/blob/master/docs/Coco Framework whitepaper.pdf](https://github.com/Azure/coco-framework/blob/master/docs/Coco%20Framework%20whitepaper.pdf)
  - Coco demo: <https://www.youtube.com/watch?v=8s6JmGJ-dY&feature=youtu.be>
  - 官网博客：<https://azure.microsoft.com/en-us/blog/announcing-microsoft-s-coco-framework-for-enterprise-blockchain-networks/>
  - Coindesk 报道：<https://www.coindesk.com/coco-revealed-microsoft-jpmorgan-demo-new-blockchain-boosting-tech/>

THANKS

