



THE DEVELOPER'S CONFERENCE

Trilha – BLOCKCHAIN

Fernando GALDINO

Arquiteto de Soluções

ORACLE

Break New Ground

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Break New Ground

Blockchain e o impacto na cadeia de valor das organizações

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Arquiteto de soluções
Abril, 2019

FERNANDO GALDINO

- Arquiteto de Soluções para o Setor Público na **Oracle**
- Business and Executive Coach (IBC)
- Formação: Ciência da Computação (Unicamp), Administração de Empresas (FGV) e Mestrado em Gestão de Projetos (Uninove)



- 
- Blockchain
 - Criptomoedas
 - Internet of Things
 - Smart Cities
 - Governo Eletrônico
 - Transformação Digital



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Cadeia de valor

“

.... é um conjunto de atividade que uma organização operando em uma determinada indústria executa para entregar um produto ou serviço de valor para o mercado

”

Michael Porter

Cadeia de valor em uma organização



Cadeia genérica de valor em uma indústria



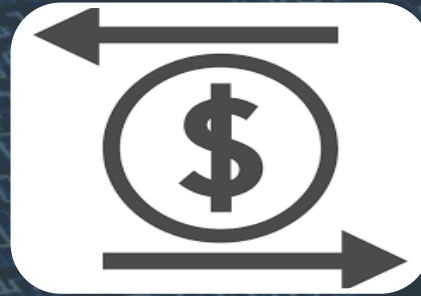
Quais são alguns dos desafios envolvidos?



Estabelecer confiança em transações B2B, evitando custos e riscos de intermediários



Troca de informação sujeita a erros (trocas manuais)



Reconciliações com alto custo e demoradas



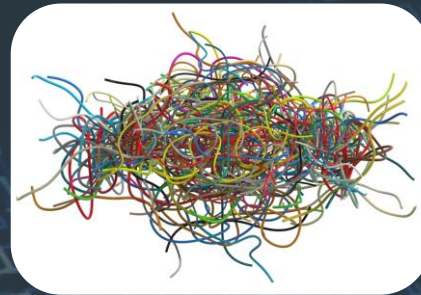
Discrepâncias de informações entre ERPs de diferentes organizações



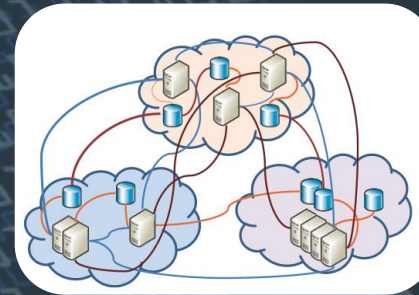
Transações entre organizações com alto risco e sujeitas a fraudes



Falta de visibilidade da informação em tempo real



Muitos sistemas diferentes dentro da mesma organização



Processamento entre múltiplas entidades da mesma organização



Falta de informação em tempo real entre departamentos, linhas de negócio, estados ou países

Geração de valor entre as organizações

Empresa A



Banco de dados



Aplicações corporativas

Empresa B



Banco de dados



Aplicações corporativas

Empresa C



Banco de dados



Aplicações corporativas

Empresa D



Banco de dados

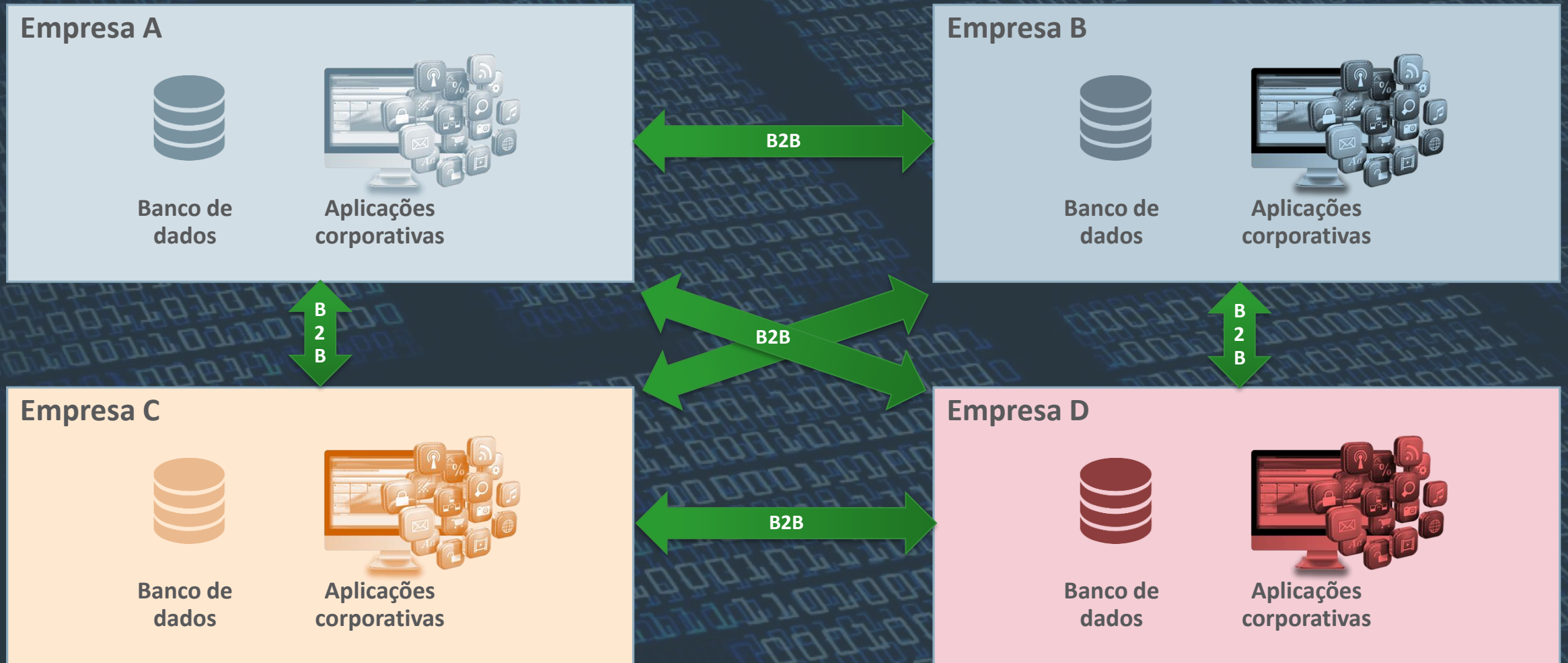


Aplicações corporativas

Alguns exemplos de relacionamentos entre organizações



Como isso acontece?



Visualizando a integração entre diversas empresas

Empresa A



Banco de dados



Aplicações corporativas

Empresa B



Banco de dados



Aplicações corporativas

Como Blockchain pode ajudar?

Empresa C



Banco de dados



Aplicações corporativas

Empresa D



Banco de dados



Aplicações corporativas

Como Blockchain pode ajudar?

Empresa A



Banco de dados



Aplicações corporativas

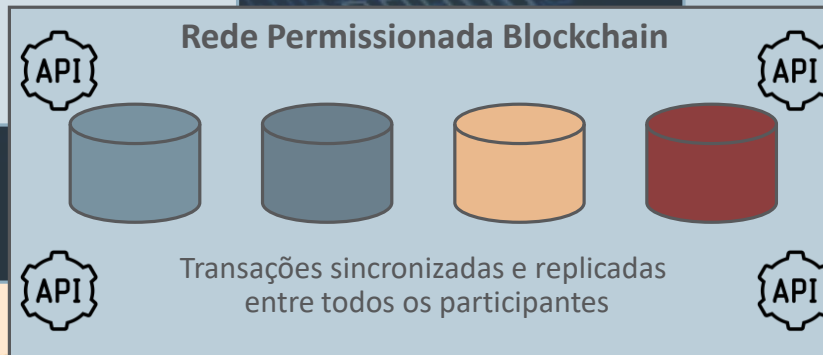
Empresa B



Banco de dados



Aplicações corporativas



Empresa C



Banco de dados



Aplicações corporativas

Empresa D



Banco de dados



Aplicações corporativas

Visualizando a integração entre diversas empresas

Como Blockchain pode ajudar?

Empresa A



Banco de dados



Aplicações corporativas

Empresa B

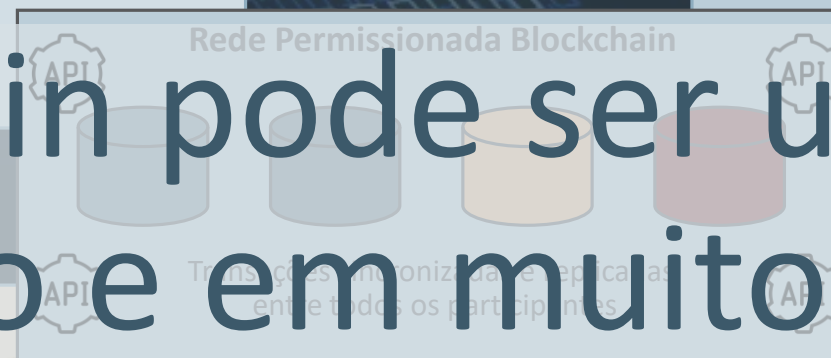


Banco de dados



Aplicações corporativas

Blockchain pode ser usado neste cenário e em muitos outros!



Empresa C



Banco de dados



Aplicações corporativas

Empresa D



Banco de dados



Aplicações corporativas

O que é Blockchain?

“ ... Blockchain é um registro digital incorruptível de transações que pode ser programado para registrar não apenas transações financeiras, mas virtualmente **tudo de valor.**”

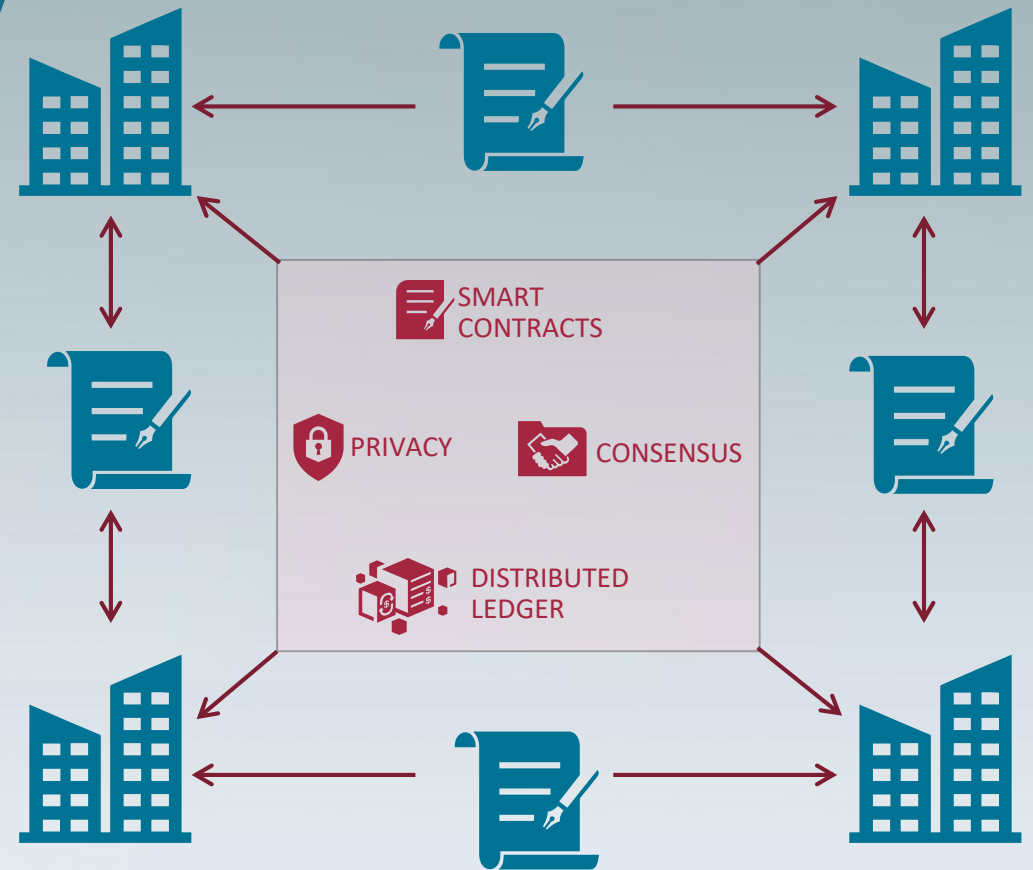
Don Tapscott, autor de *Blockchain Revolution*

Estrutura básica do bloco e da cadeia de blocos



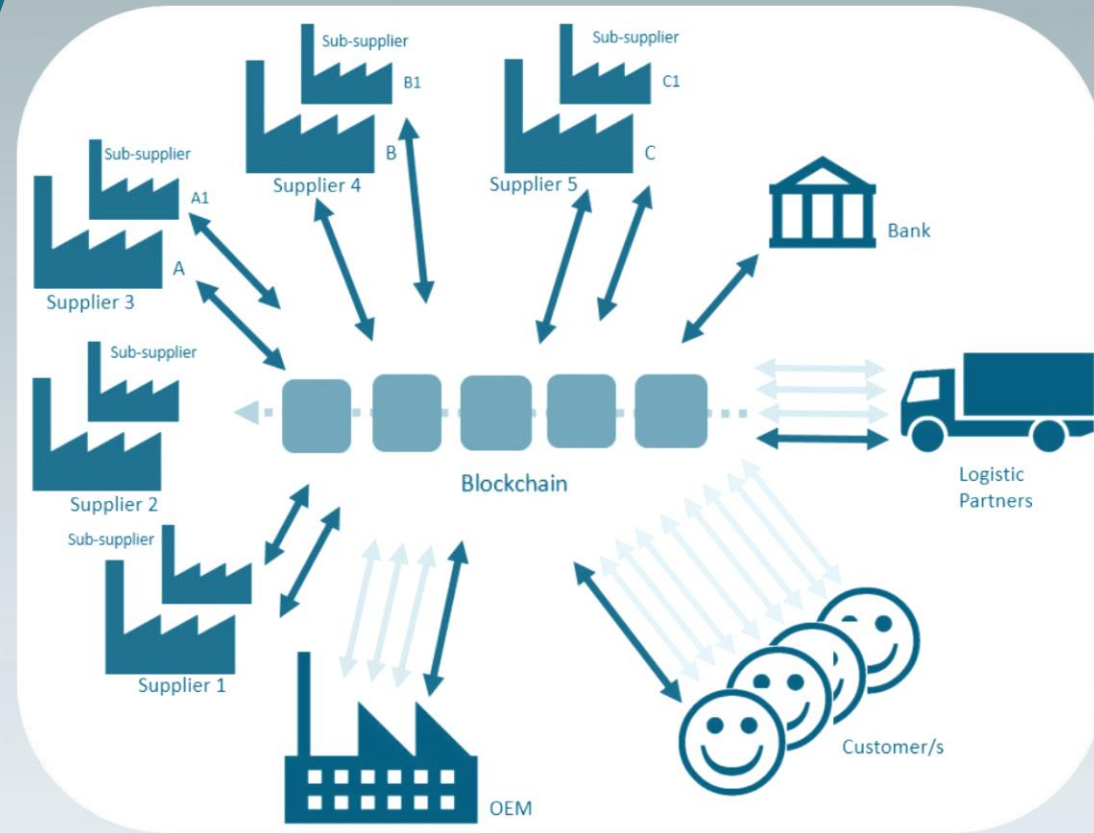
Replicação e sincronização entre os participantes

- Mantém cópias replicadas do ledger – armazenamento de fatos e log de atualizações
- Mudanças para o ledger são feitas por contratos inteligentes quando disparados por transações de aplicações externas
- Participantes executam contratos inteligentes nos nós de validação e seguem protocolos de consenso para verificar resultados
- Quando consenso é atingido a partir das políticas da rede, transações e seus resultados são agrupados em blocos, que são adicionados ao ledger e com hashes criptográficos para imutabilidade



Cinco propriedades de Blockchain

- Atualizações próximas do tempo real
- Prova criptográfica de confiança troca intermediários
- Acesso aos dados de forma transparente e compartilhado
- Transações validadas e imutáveis
- Histórico de transações



Blockchain para o mundo corporativo?

Transações confiáveis
sem intermediários

=

Processos mais
rápidos

Visibilidade da
transação em tempo
real

Custos reduzidos

Blockchain Pública? Permissionada?

+ READ

Public

Provas de identidade
Títulos de propriedade

Criptomoedas:
BTC, ETC, ...

- WRITE

Permissioned

+ WRITE

Permissionless

Redes de pagamento
Cadeia de suprimentos

Mobile roaming
Trading

Private

- READ

Como construir uma rede permissionada?



HYPERLEDGER
FABRIC

The Hyperledger Greenhouse



Community Stewardship and Technical, Legal, Marketing, Organizational Infrastructure

Frameworks



Permissionable smart contract machine (EVM)



Permissioned with channel support



WebAssembly-based project for building supply chain solutions



Decentralized identity



Mobile application focus



Permissioned & permissionless support; EVM transaction family

Tools



Blockchain framework benchmark platform



As-a-service deployment



Model and build blockchain networks



View and explore data on the blockchain



Ledger interoperability




Shared Cryptographic Library

**Faça parte da nossa
comunidade - como
começar**

Training and Certifications

Technical training courses and professional certifications to get your whole company up-to-speed on Hyperledger with the highest quality training from The Linux Foundation and Hyperledger Training Partners.



BLOCKCHAIN MOOCs

- Blockchain: Understanding Its Uses and Implications
- Introduction to Hyperledger Technologies
- Hyperledger Fabric Fundamentals
- Hyperledger Sawtooth Administration
- Hyperledger Fabric Administration



HYPERLEDGER
TRAINING PARTNER

Community Working & Special Interest Groups

Technical and Sector Groups are open to the public



[Technical Steering Committee](#)



[Architecture Working Group](#)



[Identity Working Group](#)



[Performance and Scalability Working Group](#)



[Technical Working Group China](#)



[Learning & Materials Development Working Group](#)



[Smart Contracts Working Group](#)



[Healthcare Special Interest Group](#)



[Public Sector Special Interest Group](#)



[Trade Finance Special Interest Group](#)



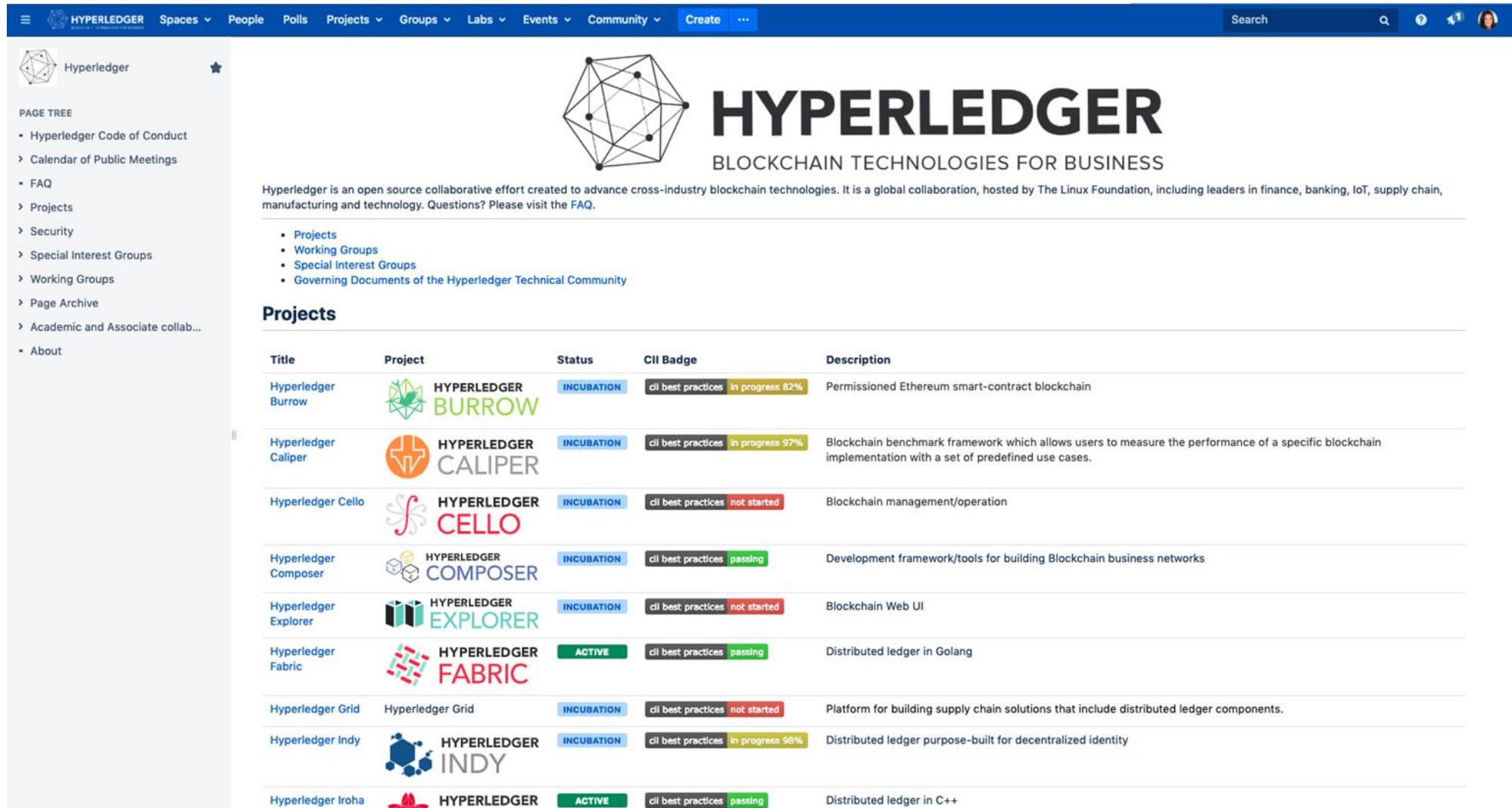
[Social Impact Special Interest Group](#)











[Telecom Special Interest Group](#)

View on demand video: [Blockchain Projects and Working Groups by Hyperledger](#)

wiki.hyperledger.org



The screenshot shows the Hyperledger Wiki homepage. At the top is a blue navigation bar with the Hyperledger logo and menu items: Spaces, People, Polls, Projects, Groups, Labs, Events, Community, and a 'Create' button. A search bar is on the right. Below the navigation bar is a sidebar with a 'Hyperledger' header and a 'PAGE TREE' containing links to Code of Conduct, Public Meetings, FAQ, Projects, Security, Special Interest Groups, Working Groups, Page Archive, Academic and Associate collaborations, and About. The main content area features the Hyperledger logo and the text 'HYPERLEDGER BLOCKCHAIN TECHNOLOGIES FOR BUSINESS'. A paragraph describes Hyperledger as an open source collaborative effort. Below this is a 'Projects' section with a table listing various projects.

Title	Project	Status	CII Badge	Description
Hyperledger Burrow	 HYPERLEDGER BURROW	INCUBATION	cii best practices in progress 82%	Permissioned Ethereum smart-contract blockchain
Hyperledger Caliper	 HYPERLEDGER CALIPER	INCUBATION	cii best practices in progress 97%	Blockchain benchmark framework which allows users to measure the performance of a specific blockchain implementation with a set of predefined use cases.
Hyperledger Cello	 HYPERLEDGER CELLO	INCUBATION	cii best practices not started	Blockchain management/operation
Hyperledger Composer	 HYPERLEDGER COMPOSER	INCUBATION	cii best practices passing	Development framework/tools for building Blockchain business networks
Hyperledger Explorer	 HYPERLEDGER EXPLORER	INCUBATION	cii best practices not started	Blockchain Web UI
Hyperledger Fabric	 HYPERLEDGER FABRIC	ACTIVE	cii best practices passing	Distributed ledger in Golang
Hyperledger Grid	Hyperledger Grid	INCUBATION	cii best practices not started	Platform for building supply chain solutions that include distributed ledger components.
Hyperledger Indy	 HYPERLEDGER INDY	INCUBATION	cii best practices in progress 98%	Distributed ledger purpose-built for decentralized identity
Hyperledger Iroha	 HYPERLEDGER	ACTIVE	cii best practices passing	Distributed ledger in C++

chat.hyperledger.org

The screenshot shows a web browser window displaying the chat.hyperledger.org interface. The left sidebar lists various channels, with #fabric selected. The main chat area shows a conversation in the #fabric channel. A notification bar at the top indicates "63 NEW MESSAGES SINCE LAST THURSDAY AT 2:35 PM".

fabric
Hyperledger Fabric discussion

JUMP TO FIRST UNREAD

63 NEW MESSAGES SINCE LAST THURSDAY AT 2:35 PM

MARK AS READ

walmon 7:32 AM
In case you missed the news <https://medium.com/worldsibu/convector-smart-contracts-is-now-part-of-hyperledger-labs-hosted-by-the-linux-foundation-f9c02b7df9cc>

mallikarjunasai995 7:40 AM
@dave.enyeart same instantiation error ... happened the thing it is instantiated successfully on peer0org1 but it is not instantiated on peer0org2 ...
msg time out expired same error i got when i run with node language ..

dave.enyeart 5:57 AM
@mallikarjunasai995 First step I'd suggest is try byfn with `-1 node` to test that your environment is working correctly with node.js chaincode. For instructions on running byfn see https://hyperledger-fabric.readthedocs.io/en/release-1.4/build_network.html

mallikarjunasai995 5:33 AM
@dave.enyeart okay so what can i do to instantiate the chaincode in javascript using fabric 1.4.0 (actually i modified everthing in fabcar and able to run the same in 2 orgs that means using the first-network) but now this error is occurring
may i know anyworkarounds are there to execute the chaincode successfully

@dave.enyeart so only solution is to run the chaincode language in go ? is it or any workaround is there to resolve the error ...

dave.enyeart **Owner** 8:25 AM
@mallikarjunasai995 You only need to instantiate on one peer. Maybe that is your issue? Second one would fail...

mallikarjunasai995 11:31 AM
@dave.enyeart **@dave.enyeart** okay thanks

yes i understood we need to instantiate/initialize the data just one time ... but when i run the fabcar after modifying to run on byfn network with the below jira link ---(make use of byfn network for fabcar instead of basic-network)
<https://gerrit.hyperledger.org/r/#/c/29827/>

... it is not even instantiating on single peer am using chaincode lanugage typescript here ...

dave.enyeart 8:25 AM
@mallikarjunasai995 You only need to instantiate on one peer. Maybe that is your issue? Second one would fail...

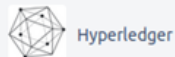
mallikarjunasai995 12:22 PM
@dave.enyeart this is the updated fabric samples by **@sstone1** <https://github.com/sstone1/fabric-samples/>

to run the fabcar in first-network instead of basic network ...am trying to run that in chaincode language typescript but its failed ... with msg time out expired ... which i already mentioned ...

sandy 6:55 PM
Is it possible to update the level state DB of a particular peer without chaincode endorsements ?

Message

B i S </> ↵ [KaTeX]



PAGE TREE

- Hyperledger Code of Conduct
- ▾ **Calendar of Public Meetings**
 - Managing Zoom Meetings
- FAQ
- Projects
- Security
- Special Interest Groups
- Working Groups
- Page Archive
- Academic and Associate collaborati
- About

⚙️ Space tools

Dashboard / Hyperledger

Calendar of Public Meetings

Created by Tracy Kuhrt, last modified on Nov 06, 2018

Following is a calendar of community meetings. **Times are GMT.**

Today ◀ ▶ **Wednesday, March 27** ▾

Showing events after 3/27. [Look for earlier events](#)

Wednesday, March 27	
2:00am	Technical Working Group China
9:00am	Hyperledger Callper Contributors Meeting
10:00am	HL Iroha Community Meeting
2:00pm	Hyperledger Quilt Bi-Weekly Sync-Up
2:00pm	Hyperledger Indy SDK coordination
3:00pm	Smart Contracts WG
4:00pm	Hyperledger Architecture WG
7:00pm	Indy Agent WG Call
Thursday, March 28	
8:30am	Hyperledger Sawtooth Application Developer's Forum
1:00pm	Fabric SDK Py
1:00pm	Hyperledger Fabric Interoperability Discussion
2:00pm	Technical Steering Committee (TSC)
3:00pm	Hyperledger Indy WG
6:00pm	Hyperledger Telecom SIG
Friday, March 29	
6:00am	Fabric Documentation WG (schedule A)
12:30pm	Hyperledger Cello Scrum Meeting
3:00pm	Hyperledger Public Sector SIG
4:00pm	Fabric Documentation WG (schedule B)
4:00pm	Hyperledger Healthcare SIG: Patient/Member Subgroup #patient-member-subgroup

[+ Google Calendar](#)

To view the calendar in your timezone, open the calendar and modify the ctz parameter to view the calendar in your local time zone. Options for time zone can be found in the TZ column of https://en.wikipedia.org/wiki/List_of_tz_database_time_zones#List.

Here are some time zones that you may find useful:

- China Standard Time
- US Arizona Time

Anunciamos...Hyperledger Brazil Chapter!

The **Hyperledger Brazil Chapter** foi criado para aproximar a comunidade de pessoas envolvidas com os diversos projetos Hyperledger no país.

Nossos objetivos são:

- Ajudar a promover a adoção de projetos com Hyperledger;
- Desenvolver a comunidade de desenvolvedores e usuários do Hyperledger;
- Promover contribuições para os projetos Hyperledger;
- Oferecer uma plataforma para direcionamento, suporte e colaboração;
- Desenvolver a comunidade brasileira através de encontros, meetups, conteúdos em mídias sociais, treinamentos e outras atividades;
- Apoiar na geração de conteúdo em português, envolvendo documentação, material de treinamento, apresentações, dentre outros;
- Aproximar e evoluir a integração com outros países de língua.



Hyperledger Brazil Chapter

Líderes regionais | Regional Leads

- [Carlos Lessandro Rischio](#)
- [Fernando de Almeida Galdino](#)
- [Paulo Alberto Simoes](#)

Participe | Get involved

Participação neste grupo é aberta para qualquer pessoa interessada neste tópico. Para participar, faça parte:

- Mailing list: [community-brazil-chapter](mailto:community-brazil-chapter@lists.hyperledger.org) at lists.hyperledger.org
- Chat channel: #community-brazil (TBC)
- Online Meetings: a definir
- Grupos de meetup locais



Em breve...com a sua ajuda! Hyperledger Bootcamp

What is a bootcamp?

A Bootcamp is where we help get community members up to speed on how to contribute. Most of the participants are fairly new and we understand that contributing to your first project can be daunting. Meeting with people in Real Life take the fear out of the process. This event is not just for coders! Contributors can be helping create documentation, writing use cases, to helping a group get organized, and of course bug reports and fixing bugs.

Contact Regional Chapter Leads on how to help and/or lead a session!



Growing the Global Community via Meetups



56K+

Members



165+

Groups



65+

Countries



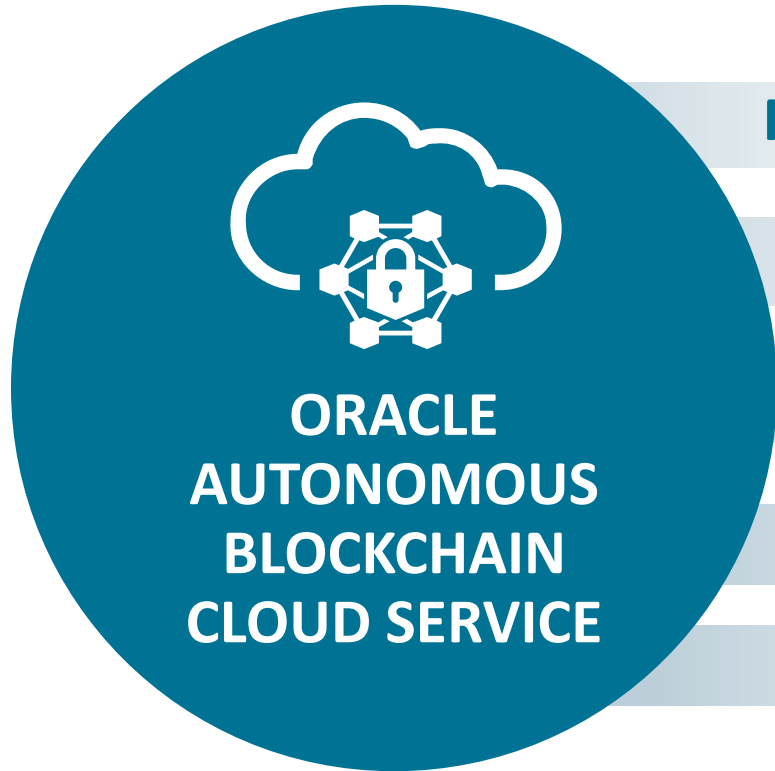
2018 Hyperledger Global Forum Highlights



- 730+ attendees
- 100+ sessions, including demos, technical how-to's and workshops
- 20+ Industry Analysts and Media in attendance w/ 30+ press articles, 13MM Twitter impressions and 28K LinkedIn impressions
- All keynotes and session videos, available on [Hyperledger YouTube](#) channel
- All speaker bios and presentations available publicly [on SCHED](#)
- [Browse pictures](#) from the event



Oracle Autonomous Blockchain Cloud Service



Pre-Assembled

Open

Plug and Play Integrations






Enterprise-Grade

Autonomous








**Oracle's
Experience and
Expertise**

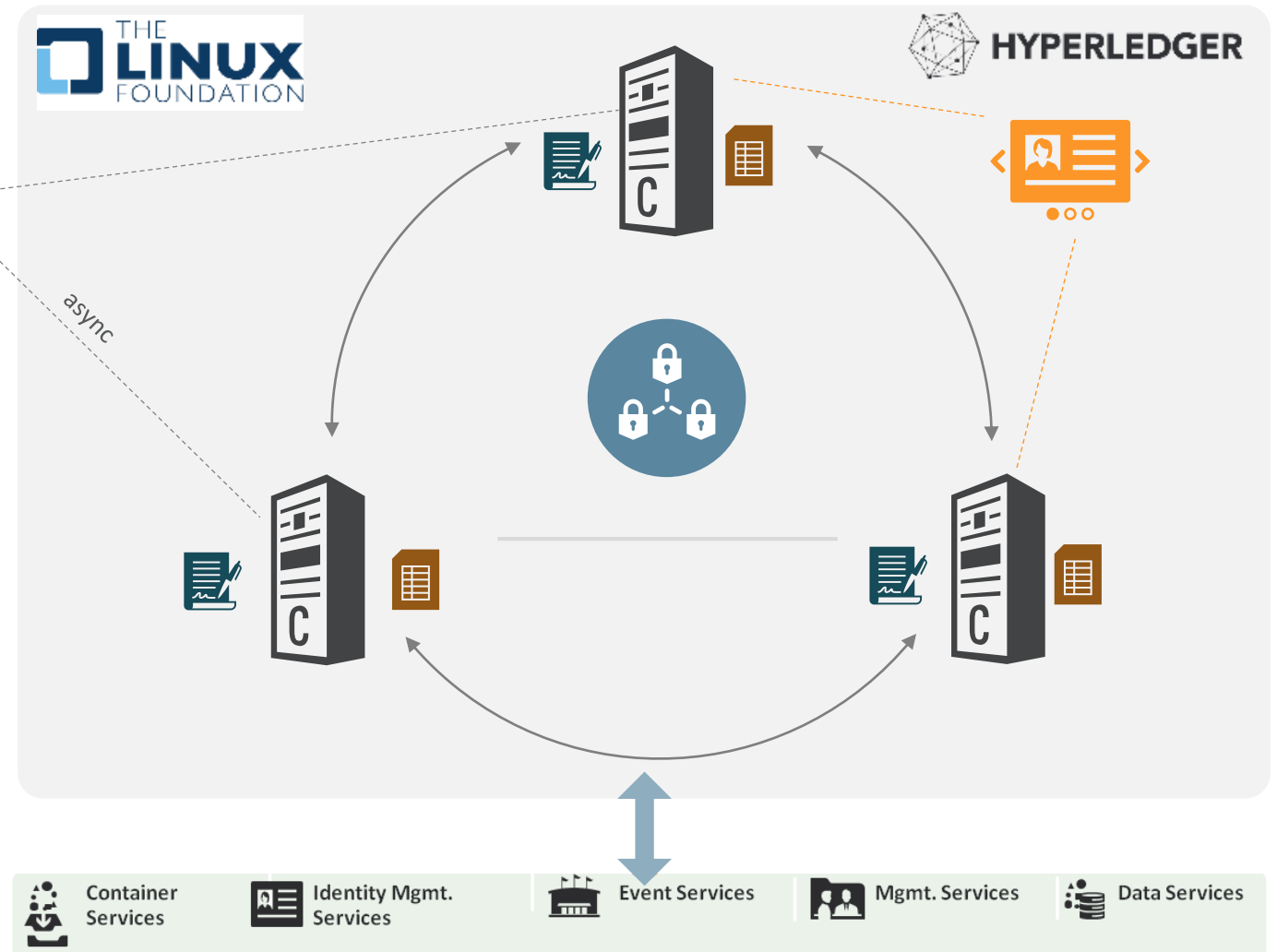
Effort Required To Deliver Enterprise-Grade Blockchain

-  Validating Nodes/ Peers
-  Distributed Ledger (Single Version of Truth)
-  Smart Contract (aka Chaincode)
-  Ordering Service
-  Membership Service

Applications (Client SDK)

Bring your own...

-  Identity Management (for member enrollment)
-  Fault Tolerant Event Hub (for ordering event mgmt.)
-  Container Lifecycle Management (for system and chaincode containers)
-  Configuration & Monitoring Tools
-  Autonomous Recovery (when components fail)
-  Managed Patching & Upgrades
-  Elastic scaling on demand
-  Multi-datacenter DR (with backup of ledger and config info)



Oracle Blockchain Cloud Platform

Industrialized, hardened blockchain cloud platform for enterprise applications

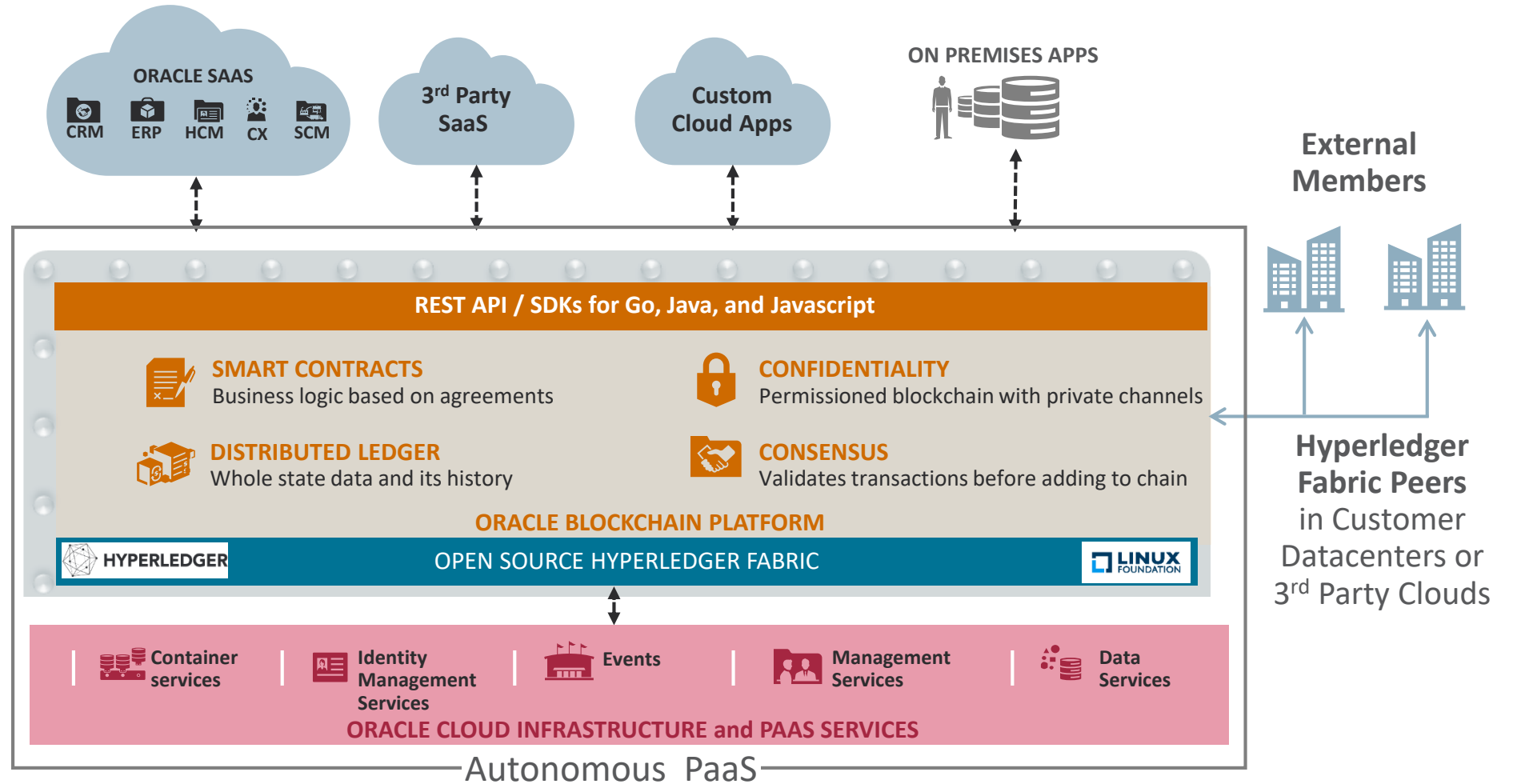
Pre-Assembled

Open

Plug and Play Integrations

Enterprise-Grade

Autonomous





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Embedded

BI & Data Warehousing

.NET

New to Java

Cloud Computing

Big Data

Security

Enterprise Architecture

Digital Experience

Service-Oriented Architecture

Virtualization

Mobile Computing

What's New

Downloads

Articles & Whitepapers

Community

Learn More

Oracle Blockchain Platform SDK

Thank you for accepting the OTN License Agreement; you may now download this software.

The Oracle Blockchain Platform SDK contains a development environment for developers to develop and test applications for Oracle Blockchain Platform Cloud. The Oracle Blockchain Platform SDK also contains a few examples in order for the developer to get started.

[Download Oracle Blockchain Platform SDK](#)

E-mail this page Printer View

<https://www.oracle.com/technetwork/topics/cloud/downloads/blockchain-sdk-5443939.html>

ORACLE

A man with glasses and a beard is smiling while looking at a computer screen. The image is partially obscured by a dark blue triangular overlay on the right side.

Saiba mais

- Avalie o potencial de blockchain em seu ambiente
- A ORACLE pode te ajudar a adotar as melhores práticas para blockchain
- Experimente Oracle Blockchain Cloud Service. Saiba mais!

FERNANDO GALDINO

Obrigado!



Entre em
contato!



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ORACLE®