

# **IBM Blockchain Platform:**

## Enablement Session

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# Introducing the IBM Blockchain Platform

IBM Blockchain

- The only fully integrated enterprise-ready blockchain platform designed to accelerate the development, governance, and operation of a multi-institution business network
  - Full lifecycle tooling to speed activation and management of your network
  - Specialized compute for security, performance resilience
  - Delivered via the IBM Cloud on a global footprint with 24x7 Integrated Support
  - Based on Hyperledger Fabric V1 runtime optimized for enterprise requirements

## Develop

Explore and accelerate development time with tools that ensure close alignment between business leaders and developers

## Govern

Speed activation, customization and management of your business network with democratic, multi-party governance tooling

## Operate

Deploy and operate always-on networks with production-ready enterprise performance and security for most demanding use cases

[[http://ibm.biz/Platform\\_Demo](http://ibm.biz/Platform_Demo)]



## IBM Blockchain Platform

*Full Lifecycle BaaS with productivity tools running on differentiated compute*

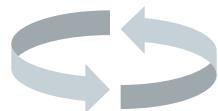
### Easy Blockchain Management



Governance Tools to simplify multi-party administration



Monitor Dashboard for Network Operators



Fabric Version and Patch Management

### Differentiated Compute



High Performance and Pre-Optimized Compute Stack



Hardened Security, Partitioning and Isolation with Integrated HSM

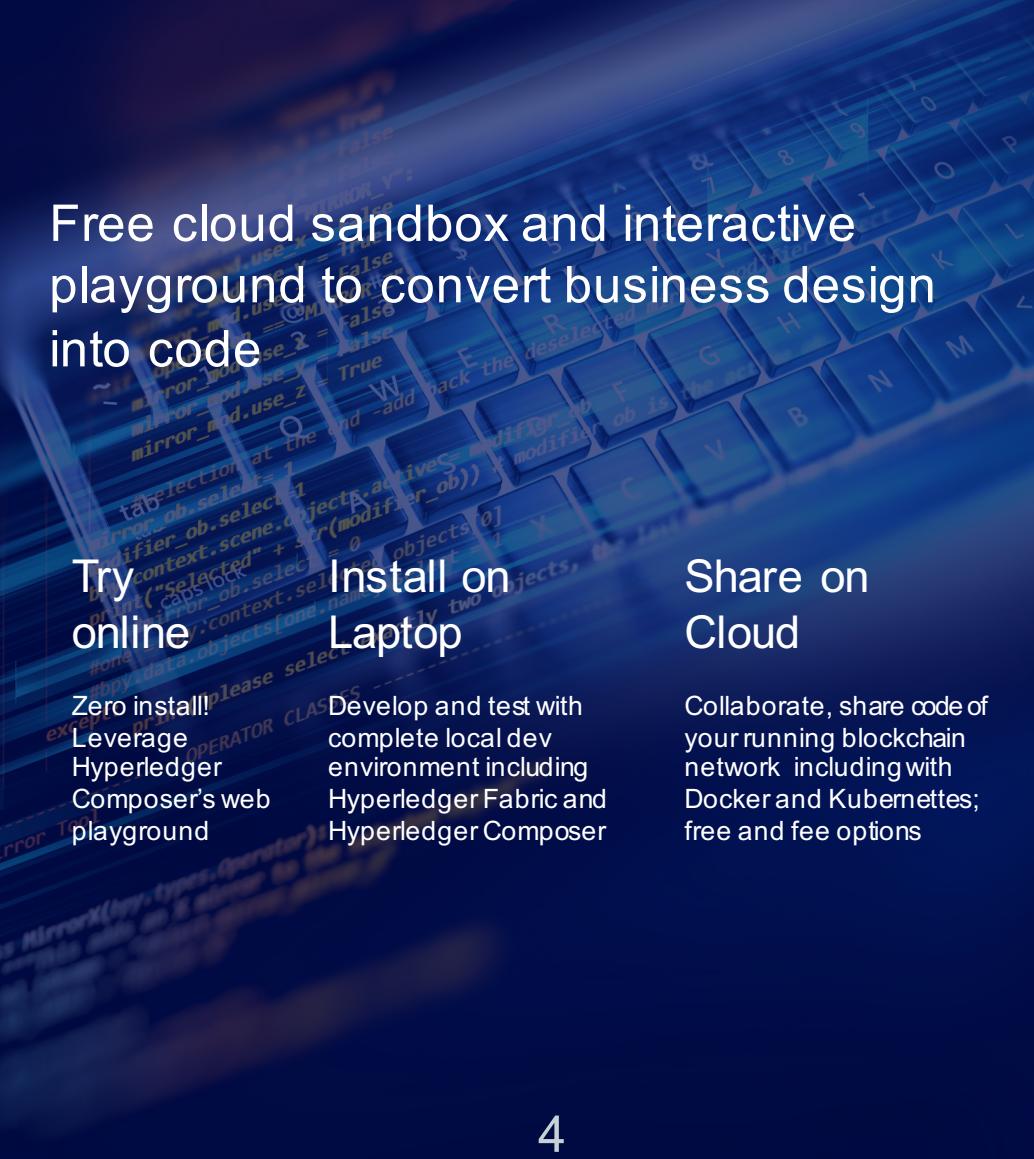


Data and Code Protected in a Tamper-Proof Appliance

# Develop Blockchain Apps for free with Hyperledger technologies

## Turn any programmer into a blockchain developer

- Align business and development to reduce development from months to days
- Quickly build blockchain skills by leveraging today's popular open source tools and languages
- Learn and develop in your preferred environment with an open and modern toolset
- Deploy to production in IBM Cloud when you're ready!



Free cloud sandbox and interactive playground to convert business design into code

Try online

Zero install!  
Leverage  
Hyperledger  
Composer's web  
playground

Install on  
Laptop

Develop and test with  
complete local dev  
environment including  
Hyperledger Fabric and  
Hyperledger Composer

Share on  
Cloud

Collaborate, share code of  
your running blockchain  
network including with  
Docker and Kubernetes;  
free and fee options

## Govern the network with democratic management tools

### Accelerate the initiation and activation of new blockchain networks

- Collectively manage rules and policies for network by preventing any one member exclusive control
- Grow elastically as new smart contracts, network members and transaction channels evolve
- Pre-built, native tools and policies enable faster onboarding, customization and activation

Integrated tools to enforce change management of the network with customizable democratic policies

#### Policy Editor

Define flexible, democratic policies to govern changes to the network

#### Multi-party workflow tool

Leverage member activities panel, integrated notifications and secure signature collection for policy voting

# Operate the network with production-ready enterprise service

## Deploy and grow your blockchain network with the necessary security and performance

- Start small and scale network elastically as membership and transaction volumes increase
- Ultra high security environment with IBM exclusive hardware, firmware, and software features
- Always-on operations and disaster recovery solutions keep the network running during upgrades without disruption
- Optimized for performance running on the world's fastest Linux compute

### Integrated features

#### Hyperledger Fabric V1.0

runtime optimized for enterprise requirements

#### Network Dashboards

for monitoring and managing the resources on the network

#### Hardened security stack

with 100% encryption, no privileged access, malware and tamper resistant keys



#### Lifecycle Management

with seamless upgrades of the full code stack without pausing the network.

#### 24/7 Technical Support

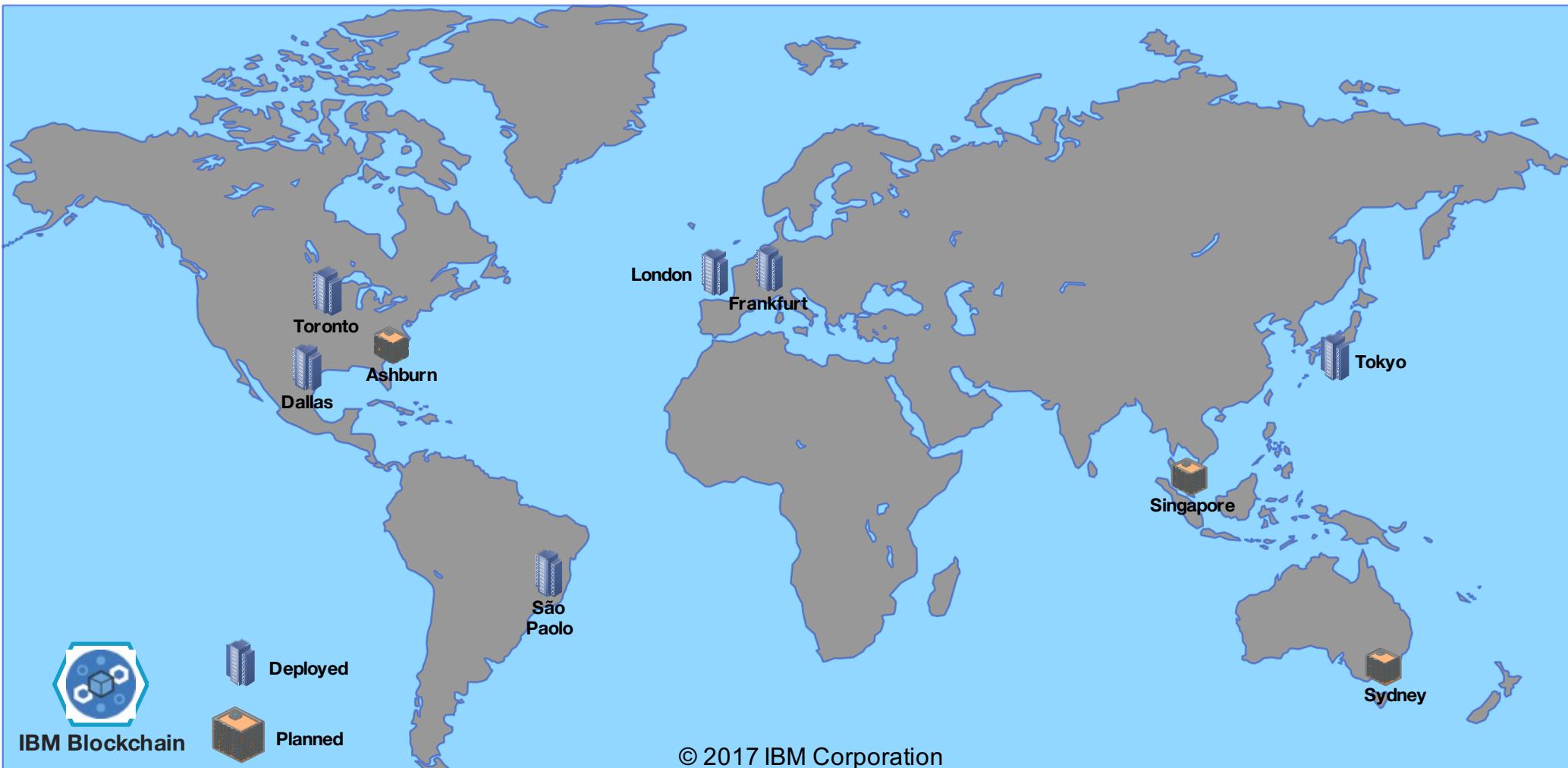
integrated into the portal for problem resolution

# Platform comparison: Security+Performance Value Adds



	IBM Blockchain Platform	Softlayer	AWS	Azure
<b>Is compute dedicated?</b>	Dedicated + isolated ✓	Dedicated ✓	Dedicated ✓	Multi-Tenant ✘
HSM Protection FIPS 140-2 Security Level (1-4)	Level 4	Level 2	Level 2	Level 2
Disk Encryption Strength	Very Strong	Via 3 <sup>rd</sup> party tool	Strong (custom, EBS)	Strong (DM-Vault)
Protection from Admin (horizontal protection, Snowden attacks)	Very Strong	No	No	No
Trusted stack (secure bootload, vertical protection)	Yes	Partial, user must build	No	No
High Speed Network	10gb to localhost	Up to 10gb, extra \$\$\$	Up to 10gb, extra \$\$\$	Up to 10gb, extra \$\$\$

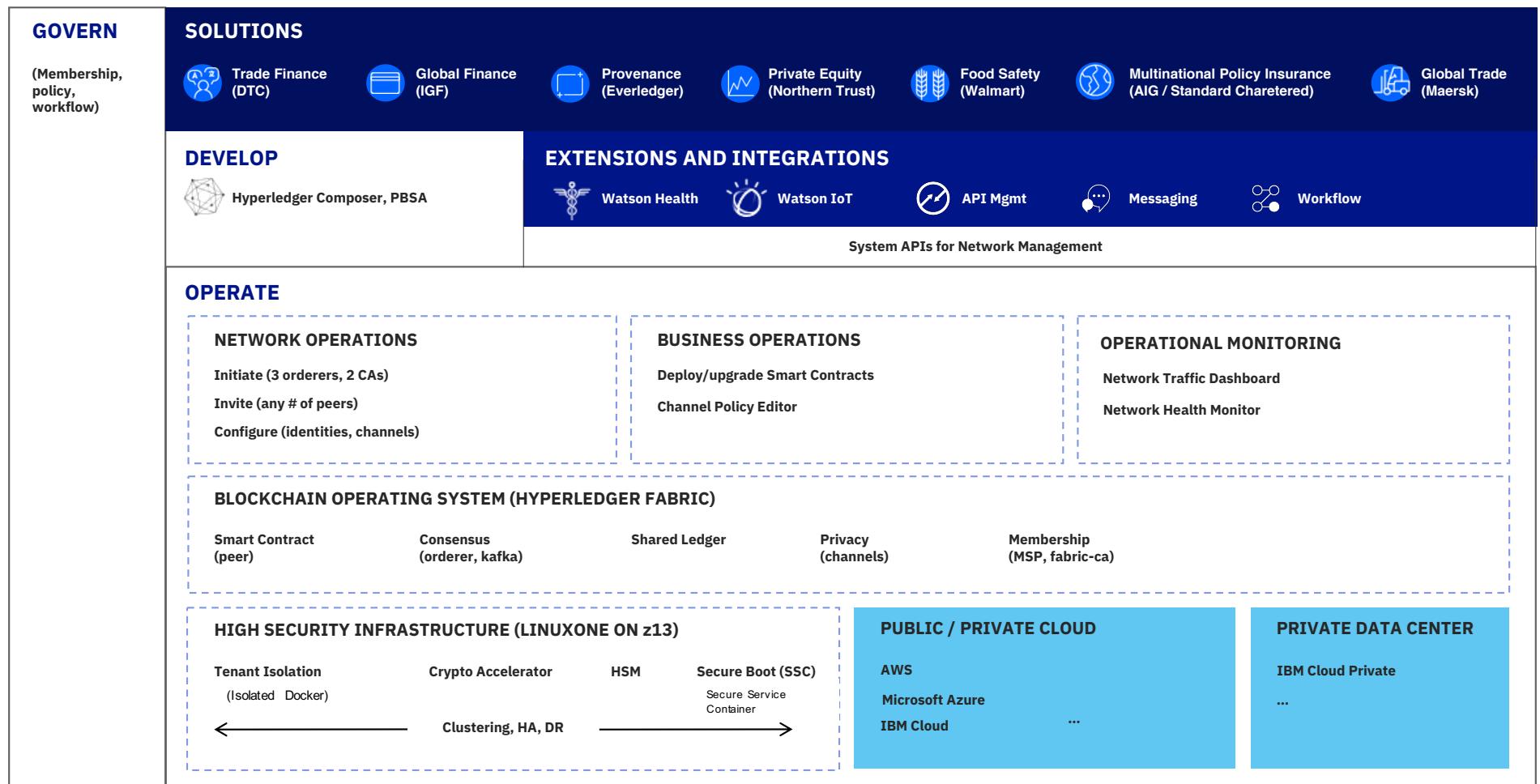
# IBM Blockchain Platform Locations: 2017



# IBM Blockchain Platform Architecture

IBM BLOCKCHAIN  
PLATFORM CORE

Non-IBM-Managed Dev Sandbox  
& Satellite Peers or Networks



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# Differentiation: Secure Service Container (SSC)

- The SSC
  - provides tamper protected Software boot process
  - ensures confidentiality of data and code running within the Appliance – both at flight and at rest

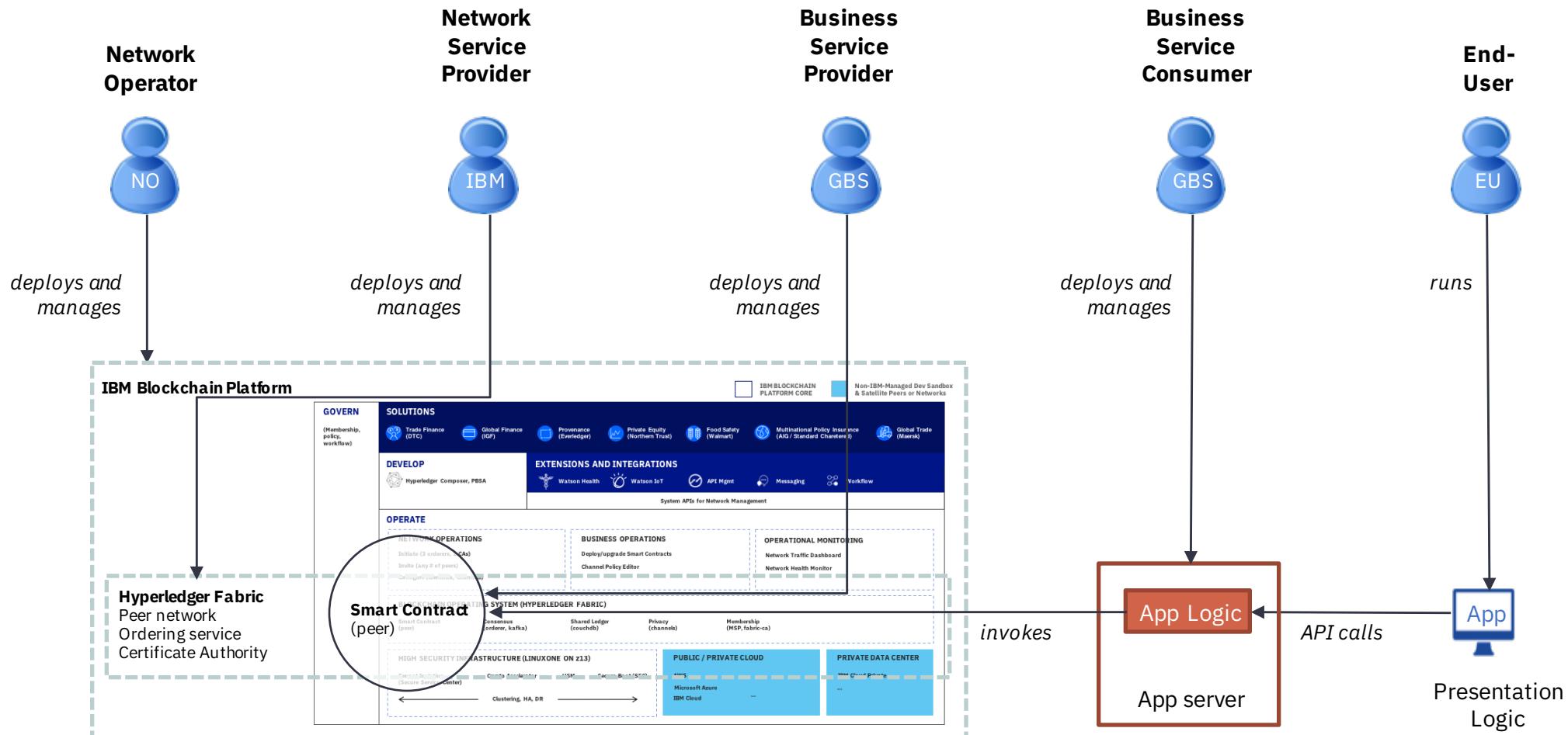


**Secure  
Service  
Container**

IBM Secure Service Containers initiate a chain of trust in an external process:

- Limiting bootable Software to a group of trusted vendors
- Permitting integrity checking of Software boot process in z Firmware

# General Network Participant Roles



# The IBM Blockchain Journey

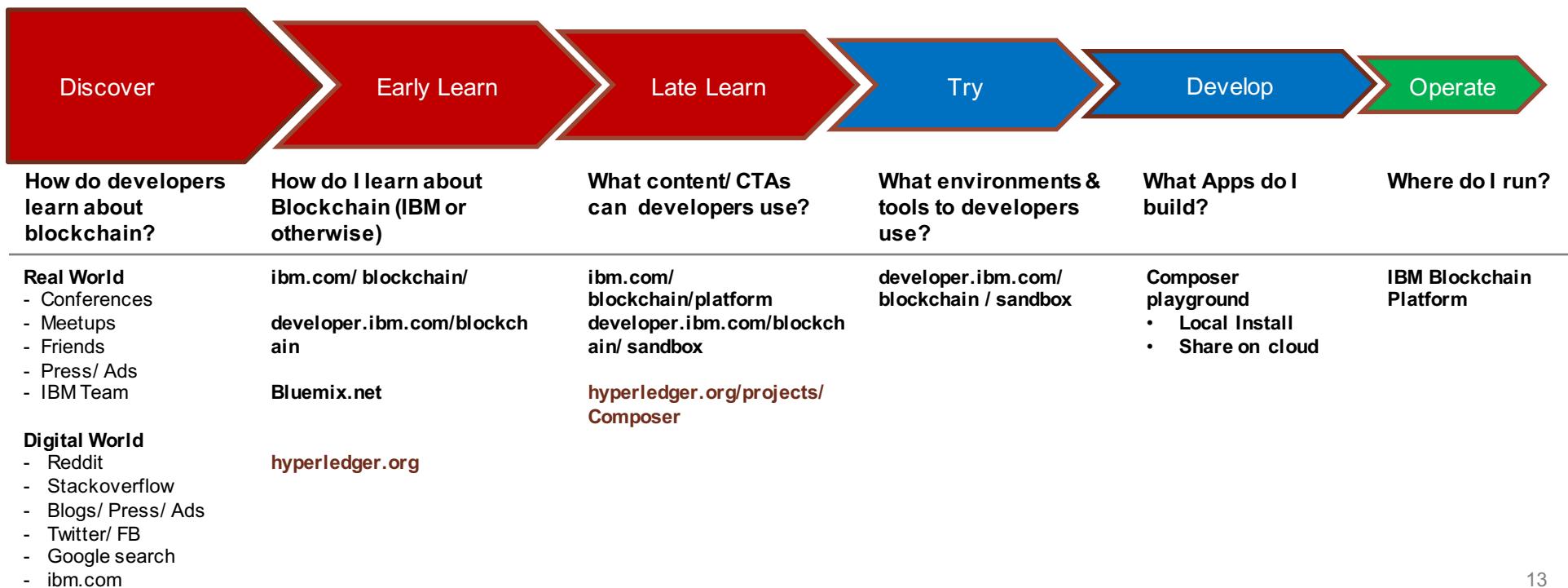


# Developer Journey



- Interested in new technology
- Wants to make more money
- Builds apps for work and fun
- Brings new tech to work

Lewis, an Application Developer



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## Development Sandboxes

- Discussion of Capabilities  
<https://developer.ibm.com/blockchain/sandbox/>

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# IBM Blockchain Platform Enterprise Plan

- Demonstration
  - The first 10 minutes:
    - Requesting a network
    - Defining a network
  - Operating your network
    - Inviting Members
    - Defining Governance Policies
    - Deploying Chaincode