

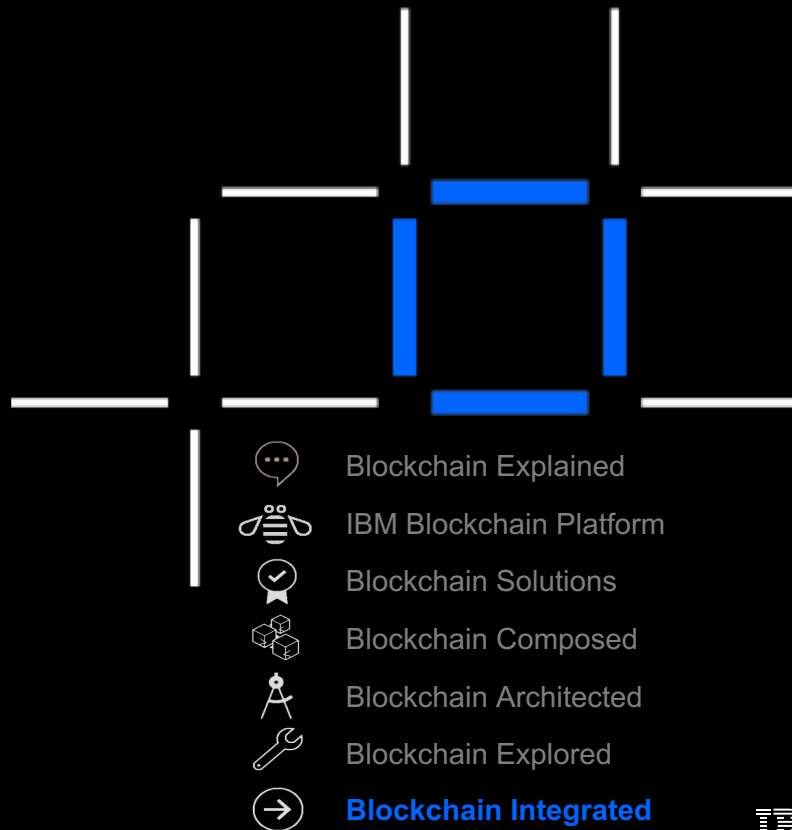
Blockchain Integrated

An Introduction to Blockchain Integration

Jin VanStee

Blockchain and Transformation Leader

NA Z Tech Sales



The API Economy

A new channel to:

Increase speed and agility

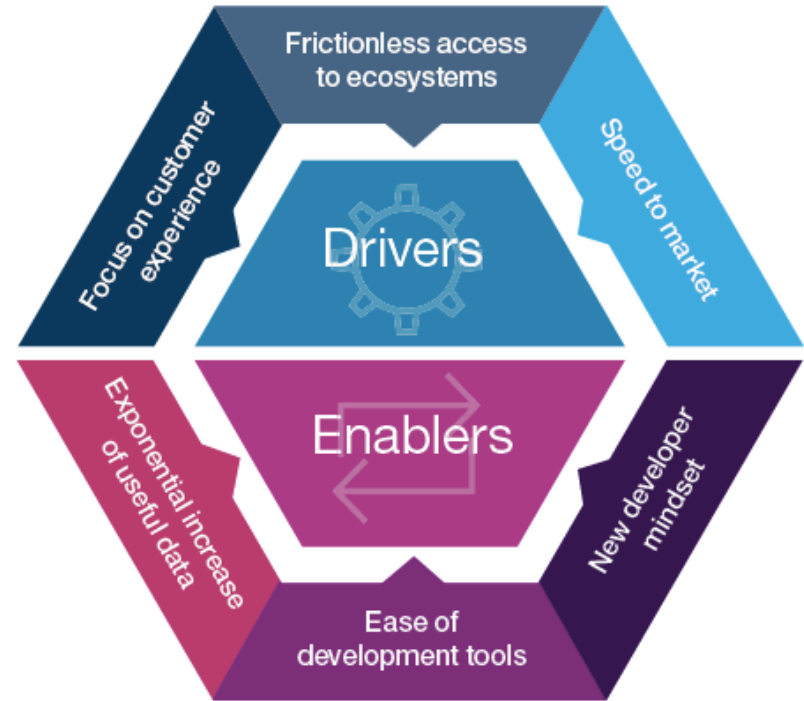
Reach clients & partners

Enable new businesses models



Figure 2

API drivers and enablers



Source: IBM Institute for Business Value analysis.

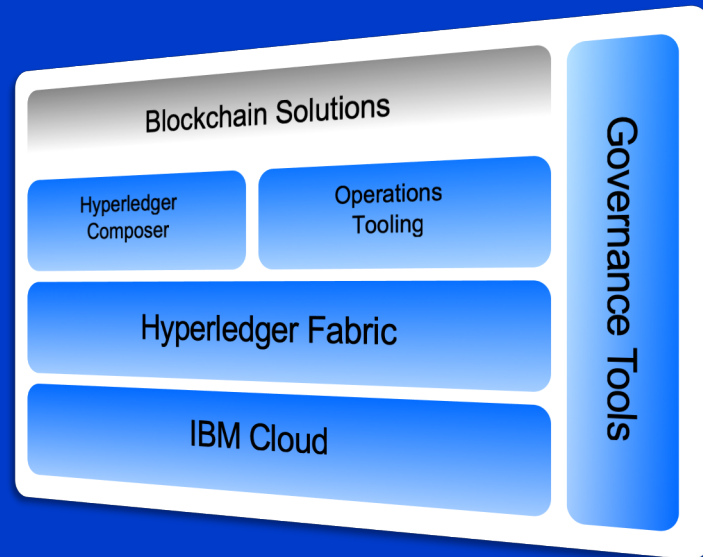
IBM Blockchain Platform

A new platform to:

Accelerate the development, governance,
and operation of a multi-institution
business network

Unparalleled security and transparency

Enable new businesses models



Pattern: IBM API Connect + IBM Blockchain Platform

IBM Blockchain Platform

Exposes Hyperledger Composer REST APIs from the defined "Smart Contract" or business rules in the blockchain

What if the Smart Contract exposes a new version of those APIs? How do I control which blockchain applications are using which version of the APIs?

How do I prevent a rogue application from flooding the blockchain with transactions and queries?

How do I provide analytics on which blockchain APIs are being invoked by which applications?

How do I protect against malicious payloads in APIs?

IBM API Connect

...manages these APIs, possibly with different owners, workflow approvals, portals, etc.

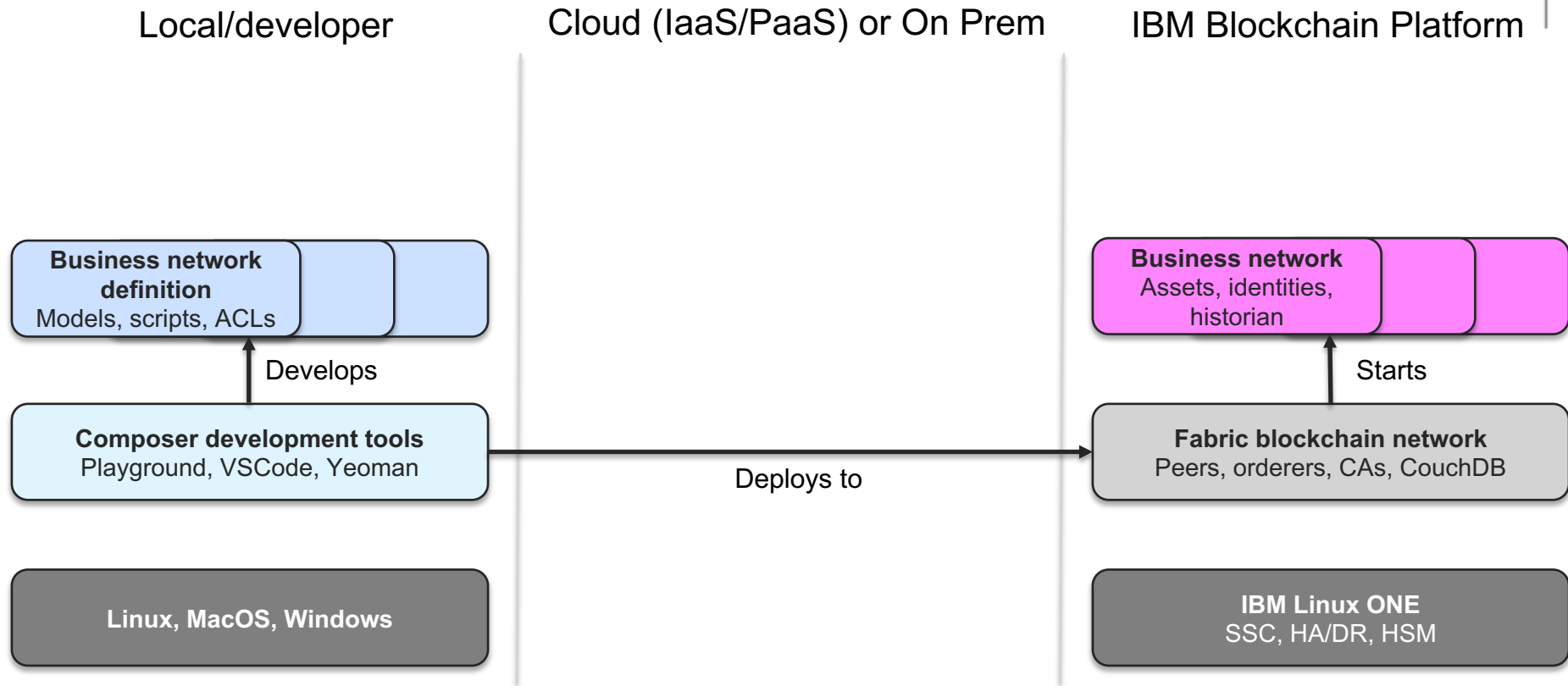
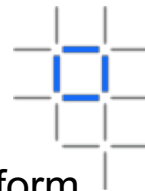
... manages the API product subscriptions lifecycle

... enforces API traffic throttling with API subscription plans

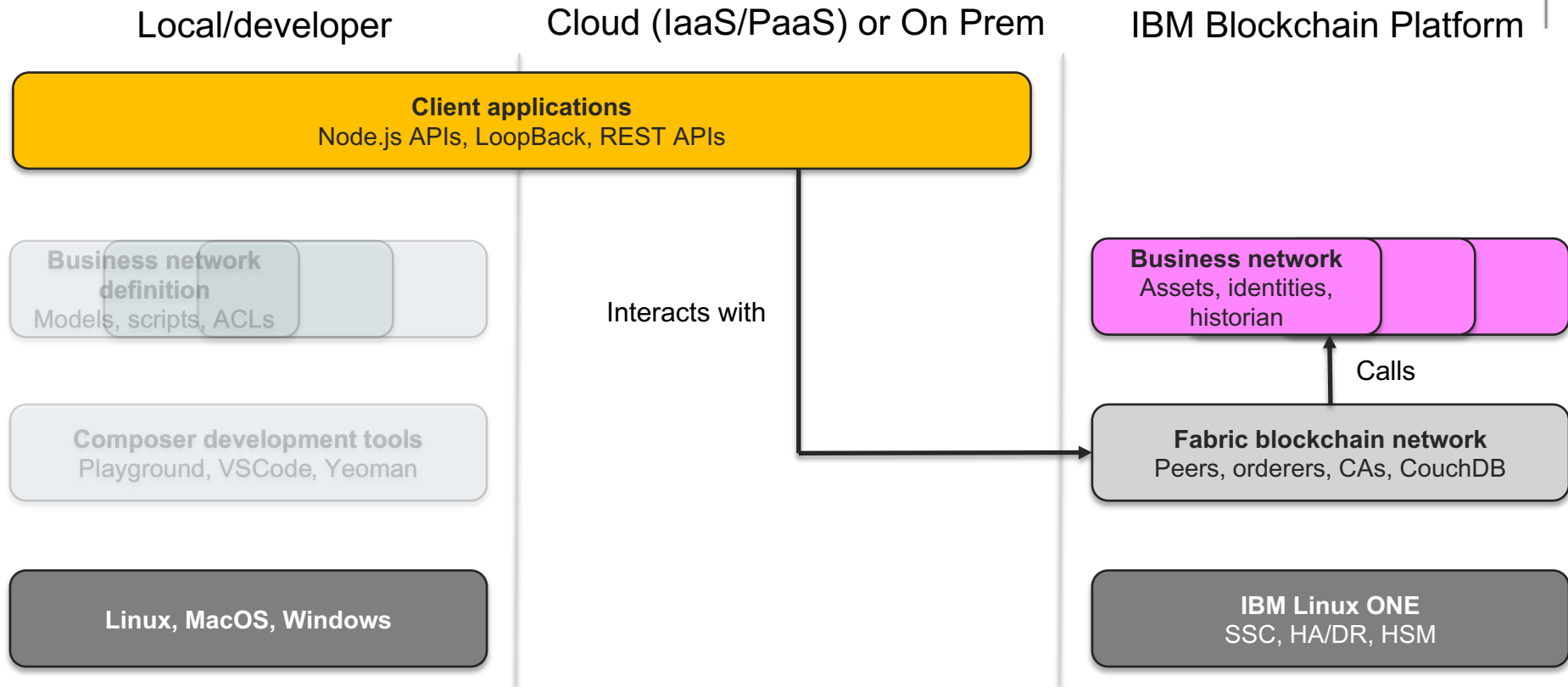
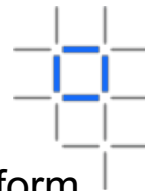
... provides customizable analytics dashboards to track API traffic and the applications consuming those APIs.

... Enforces threat protection provided by the API Gateway

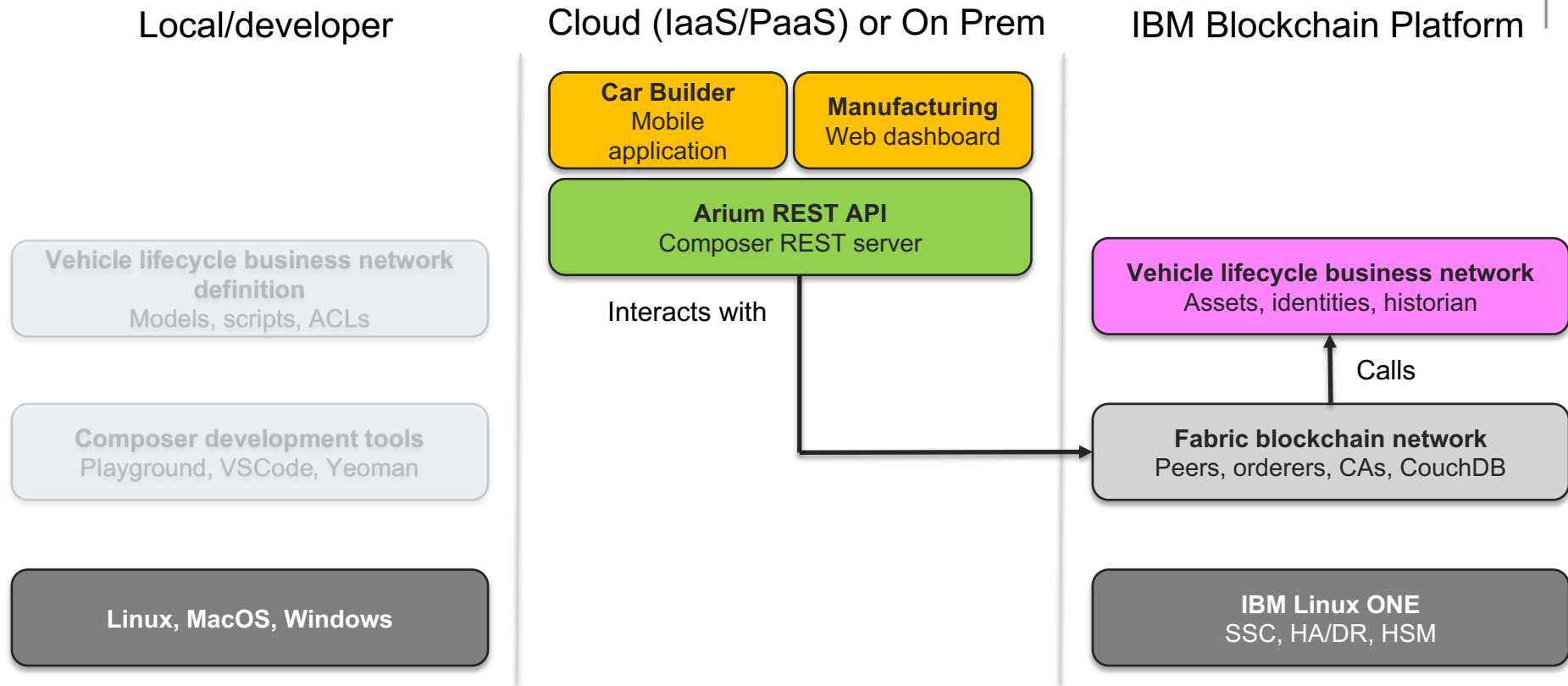
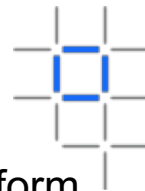
IBM Blockchain Platform Enterprise Plan (Deployment)



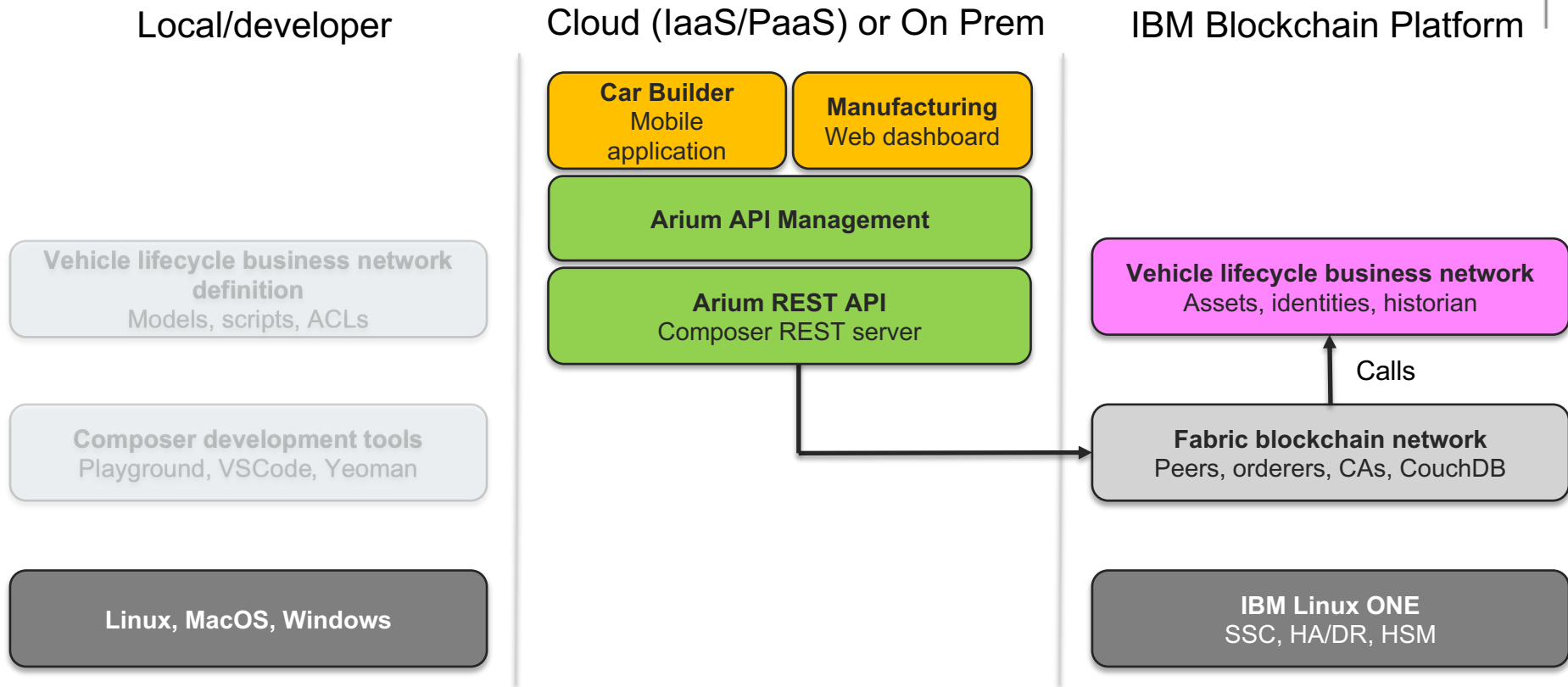
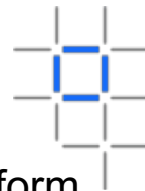
IBM Blockchain Platform Enterprise Plan (Runtime)



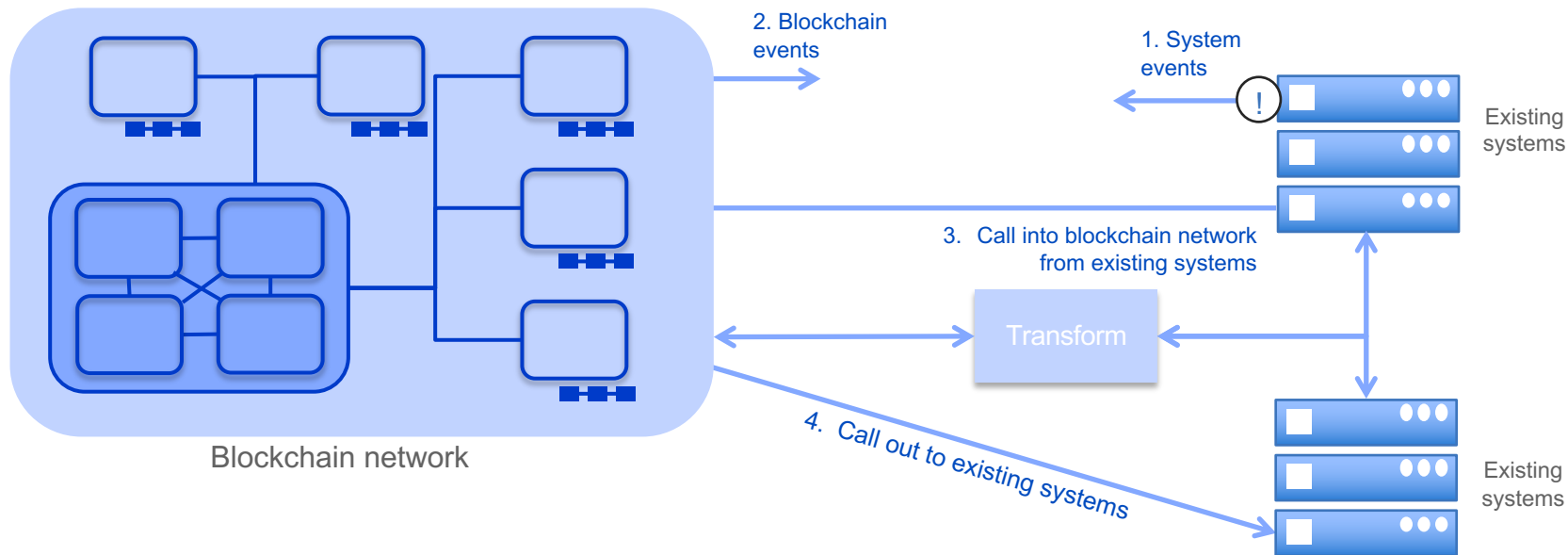
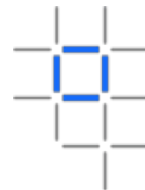
IBM Blockchain Platform Enterprise Plan (Arium)



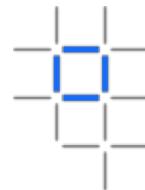
IBM Blockchain Platform Enterprise Plan (Arium)



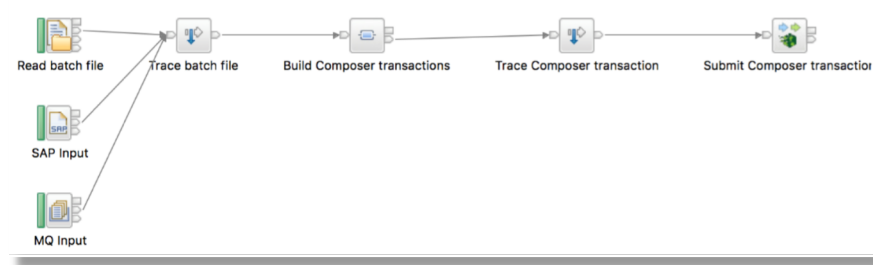
Integrating with Existing Systems – Possibilities



Integrating with Existing Systems – Using Middleware




- Blockchain is a network system of record
- Two-way exchange
 - Events from blockchain network create actions in existing systems
 - Cumulative actions in existing systems result in Blockchain interaction
- Transformation between blockchain and existing systems' formats
 - GBO, ASBO is most likely approach
 - Standard approach will be for gateway products to bridge these formats
 - Gateway connects to peer in blockchain network and existing systems
- Smart contracts can call out to existing systems
 - Query is most likely interaction for smart decisions
 - e.g. all payments made before asset transfer?
 - **Warning: Take care over predictability: transaction must provide same outputs each time it executes...**




Thank you

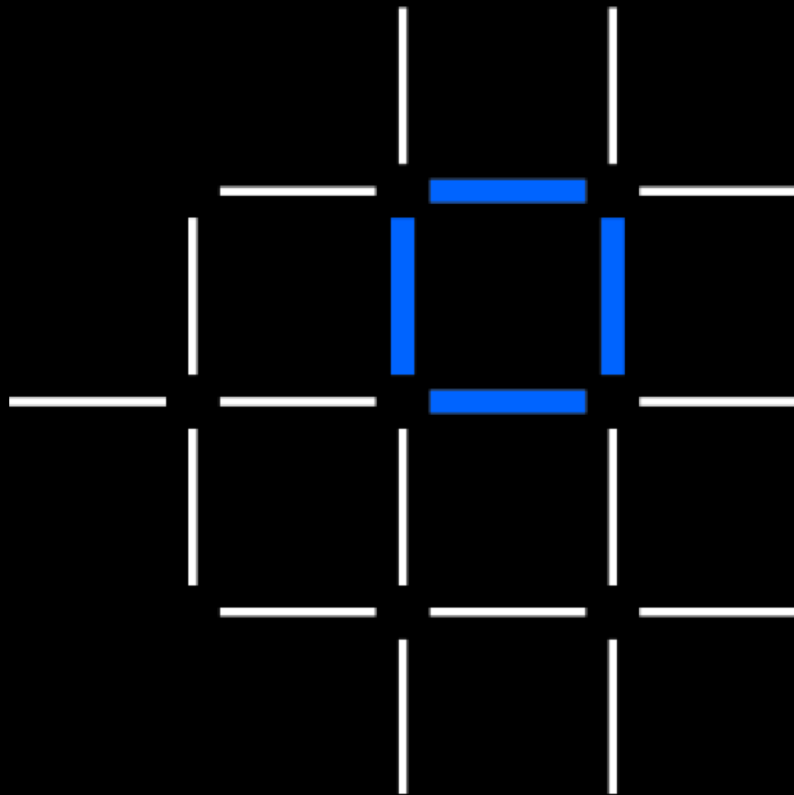
Jin VanStee

*Questions? Tweet us or
go to ibm.com/blockchain*

 @IBMBlockchain

 IBM Blockchain

 IBM Blockchain



IBM Blockchain

IBM



© Copyright IBM Corporation 2018. All rights reserved. The information contained in these materials is provided for informational purposes only, and is provided AS IS without warranty of any kind, express or implied. Any statement of direction represents IBM's current intent, is subject to change or withdrawal, and represents only goals and objectives. IBM, the IBM logo, and other IBM products and services are trademarks of the International Business Machines Corporation, in the United States, other countries or both. Other company, product, or service names may be trademarks or service marks of others.