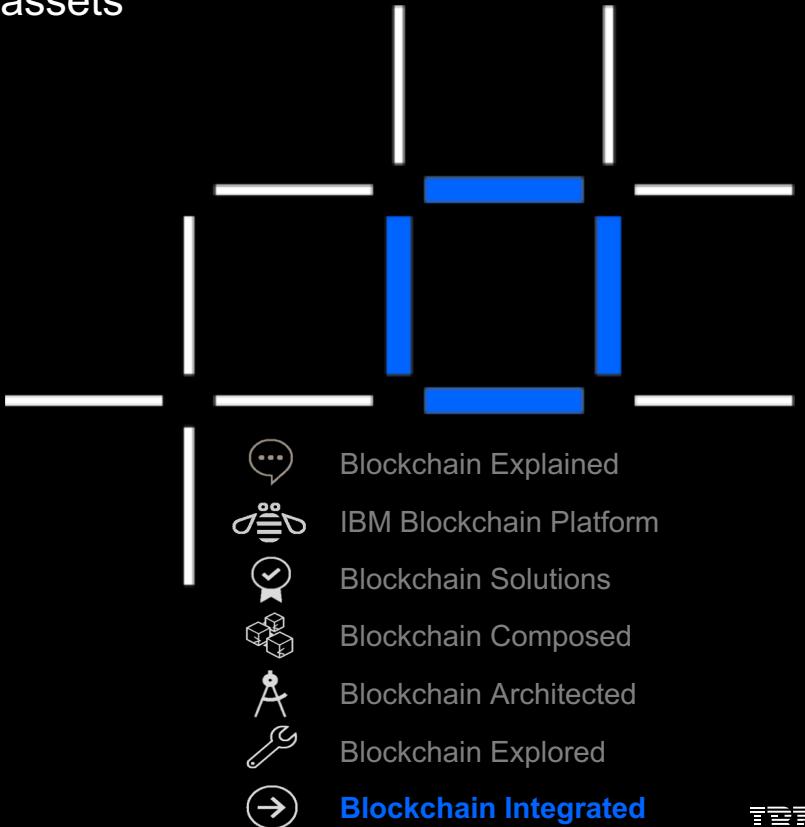


Blockchain Integrated

An Introduction to Blockchain Integration with existing assets

*Steven Bodie
Senior IT Specialist
IBM Hybrid Cloud Integration*





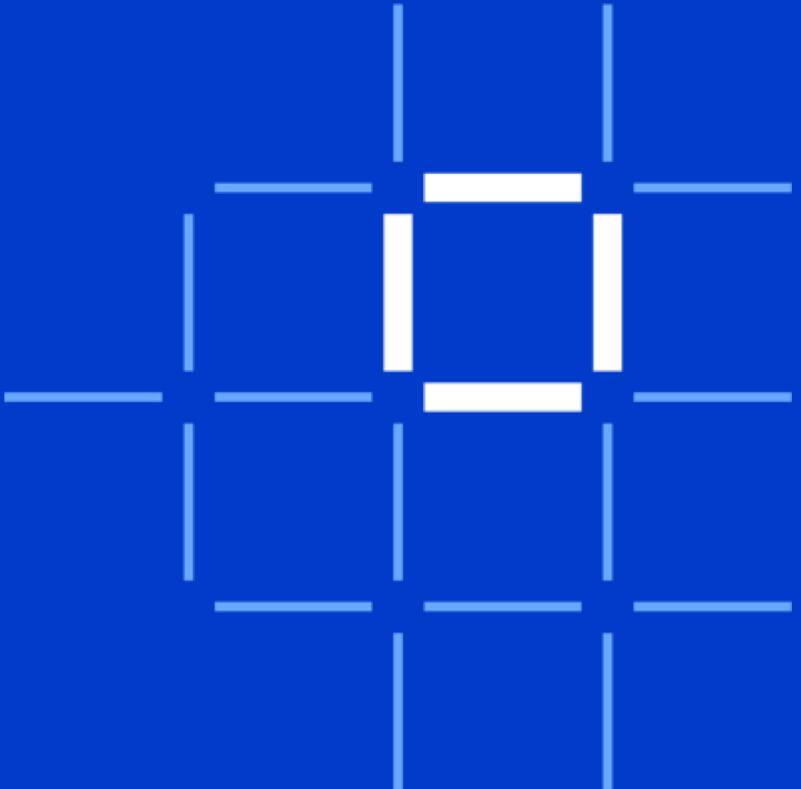
How do we integrate
with Blockchains?



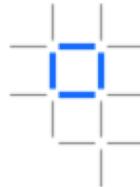
Mainframe REST APIs



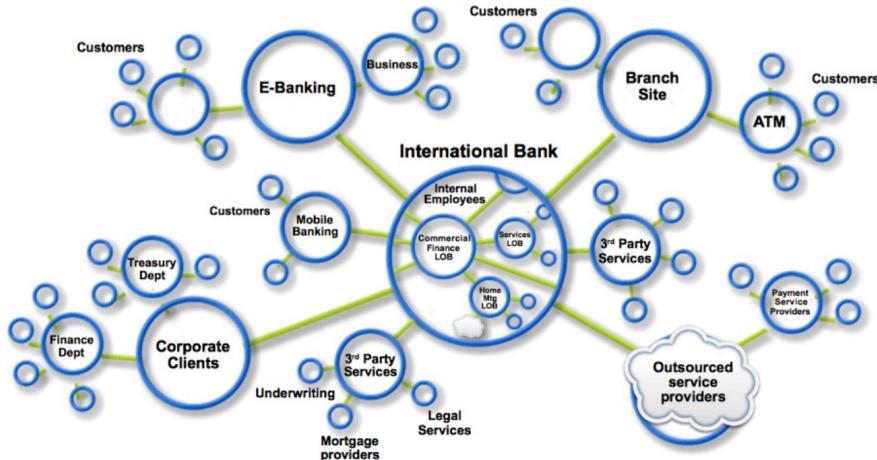
Publishing APIs to your
Developers



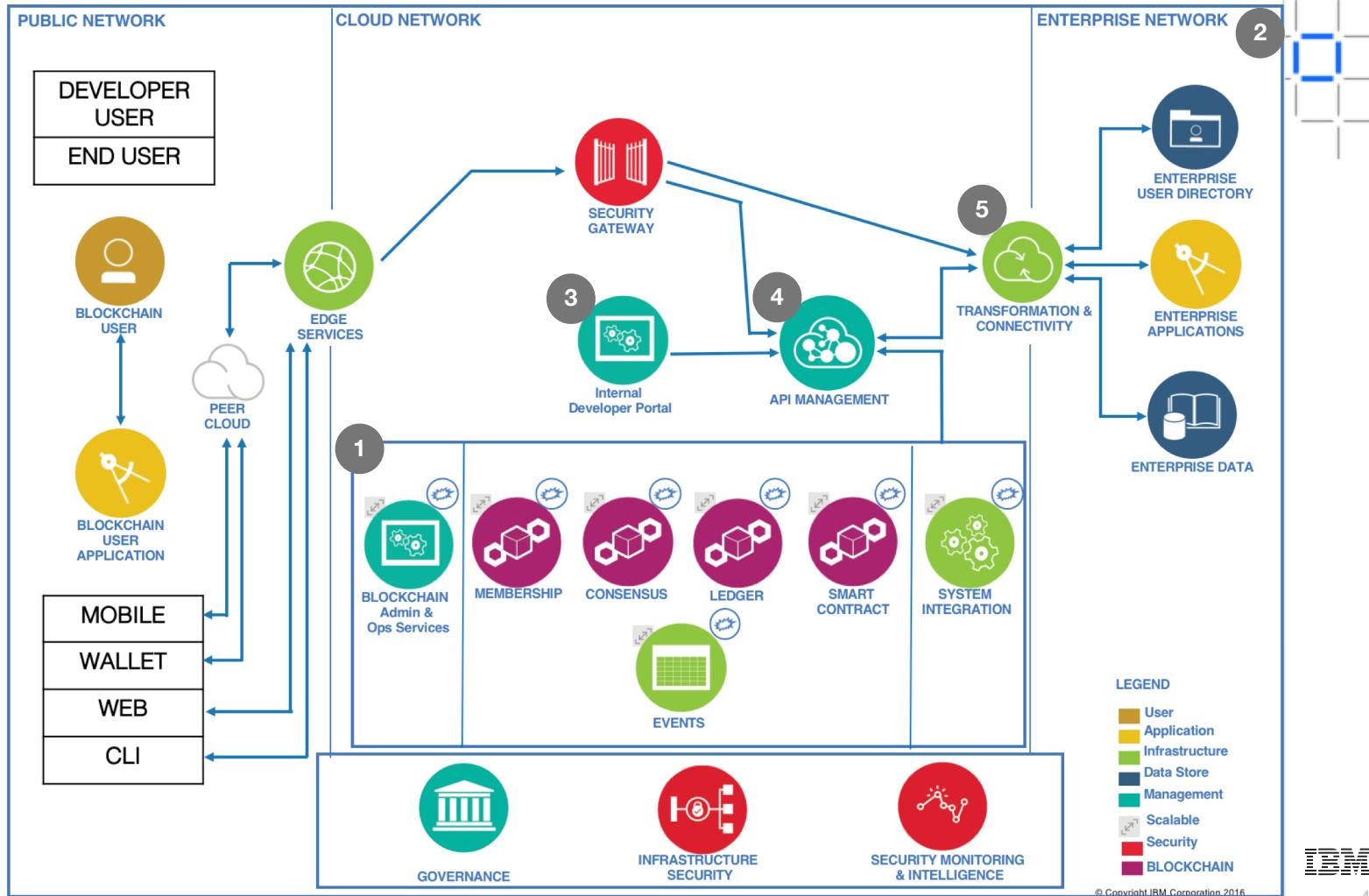
Integration should start simple



- **Distributed Ledger Technology (DLT)**
 - Gives us the opportunity to re-architect entire industries
- **Keep It Simple**
 - Radical changes are coming
 - But first we have to integrate with DLT and build an ecosystem
- **Less Data Movement** is more secure:
 - By accessing data directly we eliminate potential security risks of moving data.
 - Standardized RESTful API access is what developers want



Topology





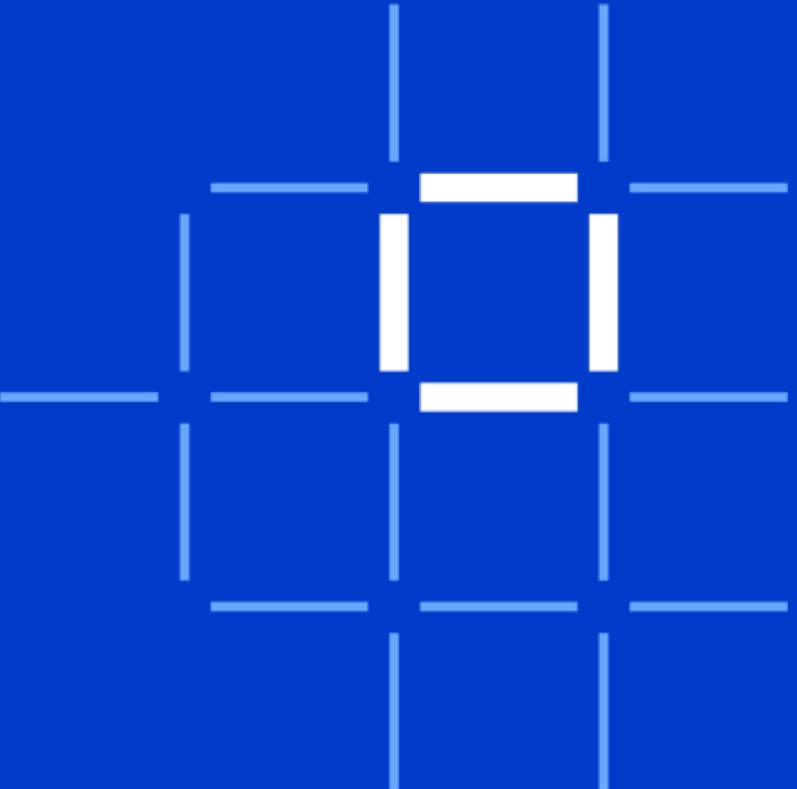
How do we integrate
with Blockchains?

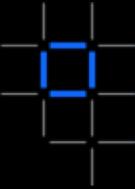


Mainframe REST APIs



Publishing APIs to your
Developers

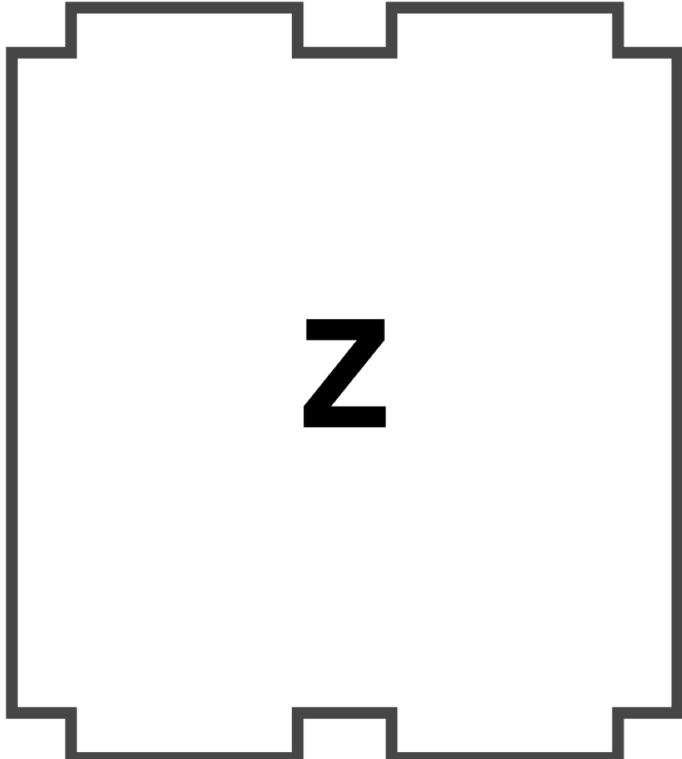
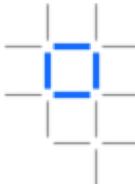




How IBM Z can give you the edge



What makes a good API host?



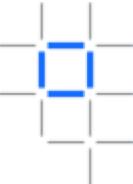
“Fast response time”.

“Extremely reliable”.

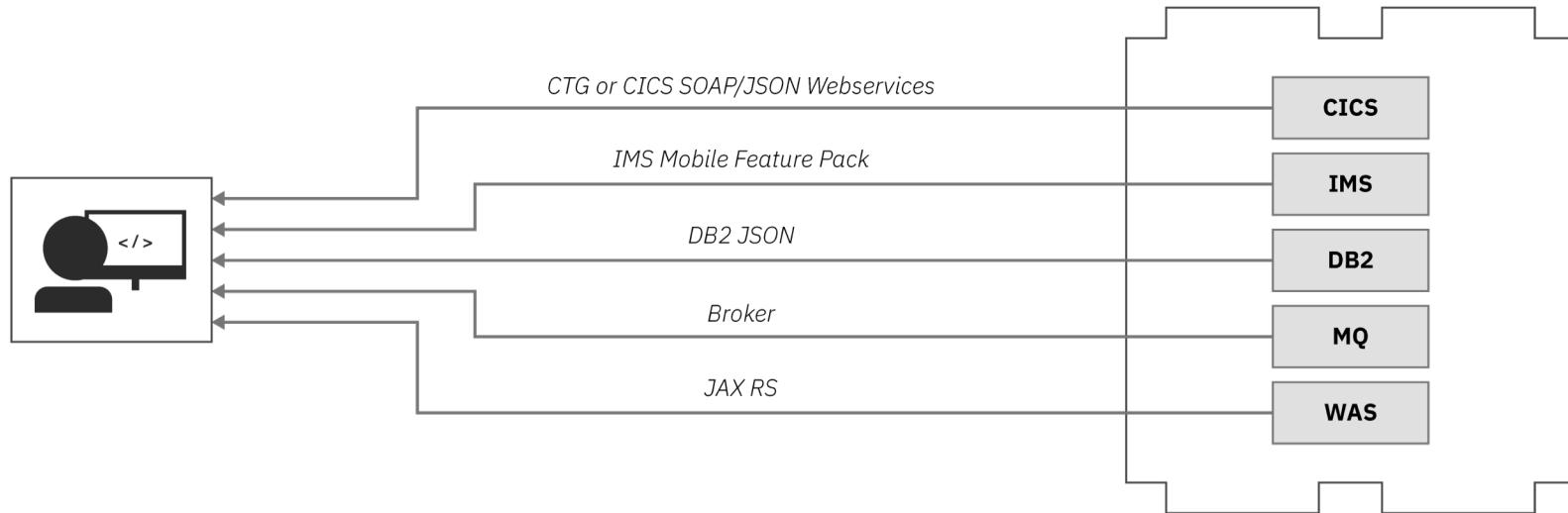
“Handles high workloads”.

“Highly available”.

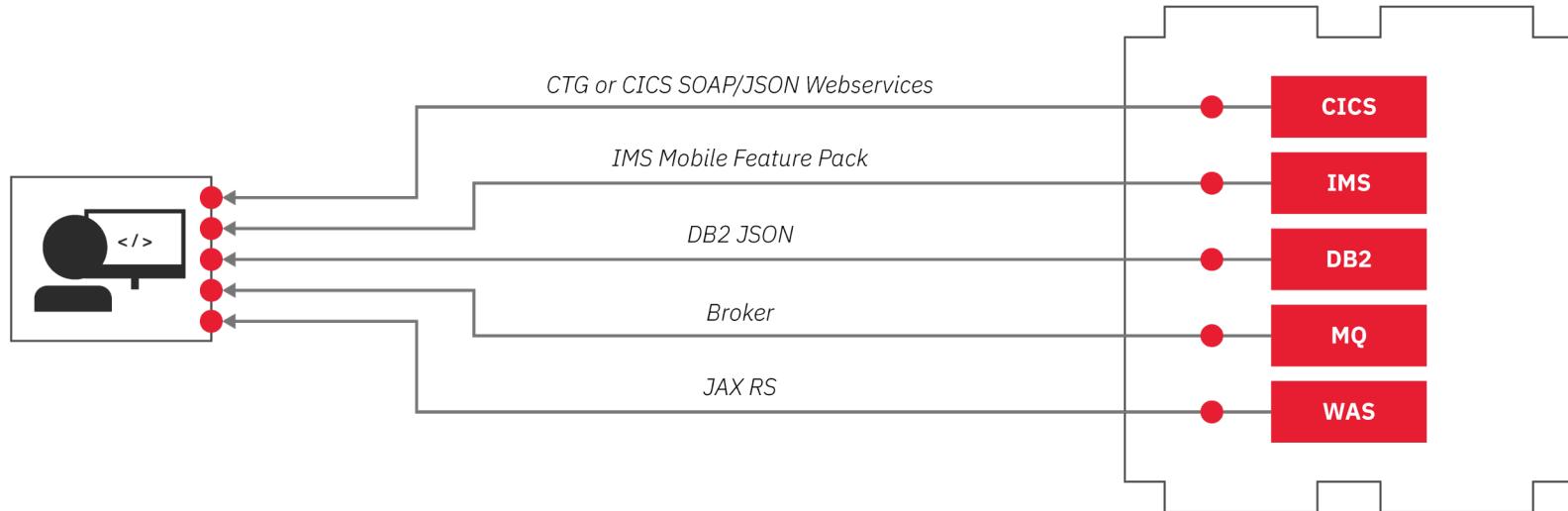
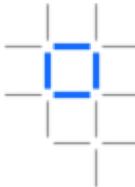
Z has all of these attributes, and it's where your core assets are.



Can we do this natively?



Can we do this natively?

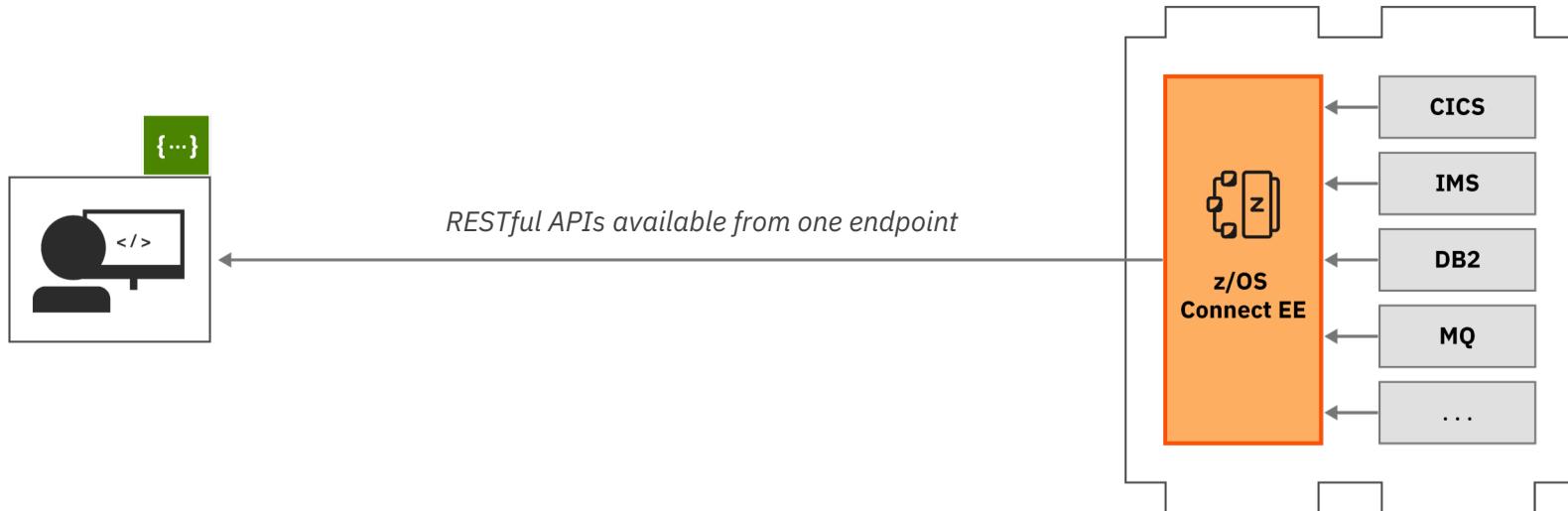
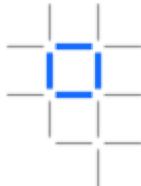


Completely different configuration and management.

Multiple endpoints for developers to call/maintain access to.

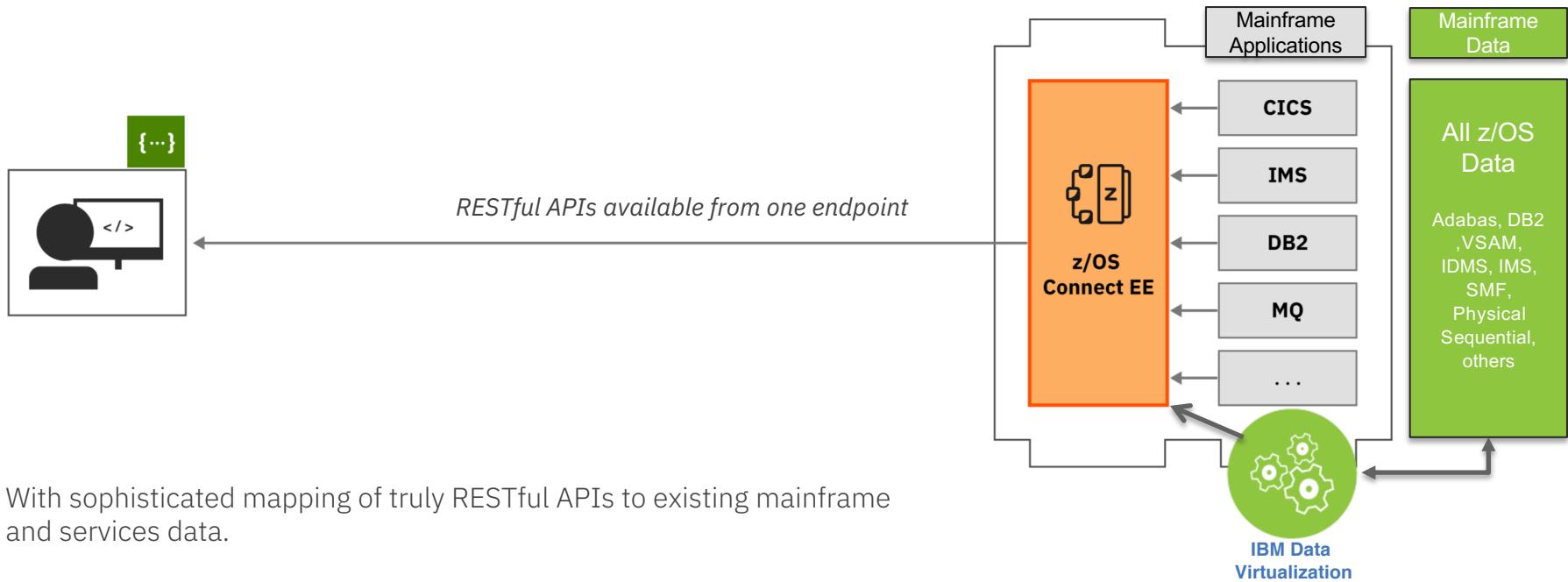
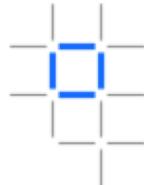
These are typically not RESTful!

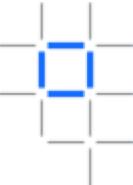
You need a single point of entry



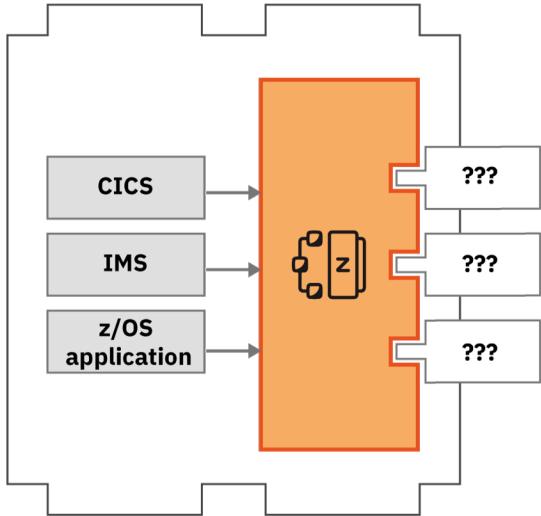
With sophisticated mapping of truly RESTful APIs to existing mainframe and services data.

You need a single point of entry, including data.





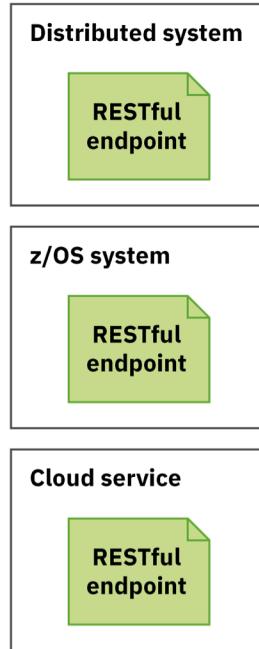
What if I want to call APIs from z/OS assets?

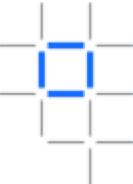


?

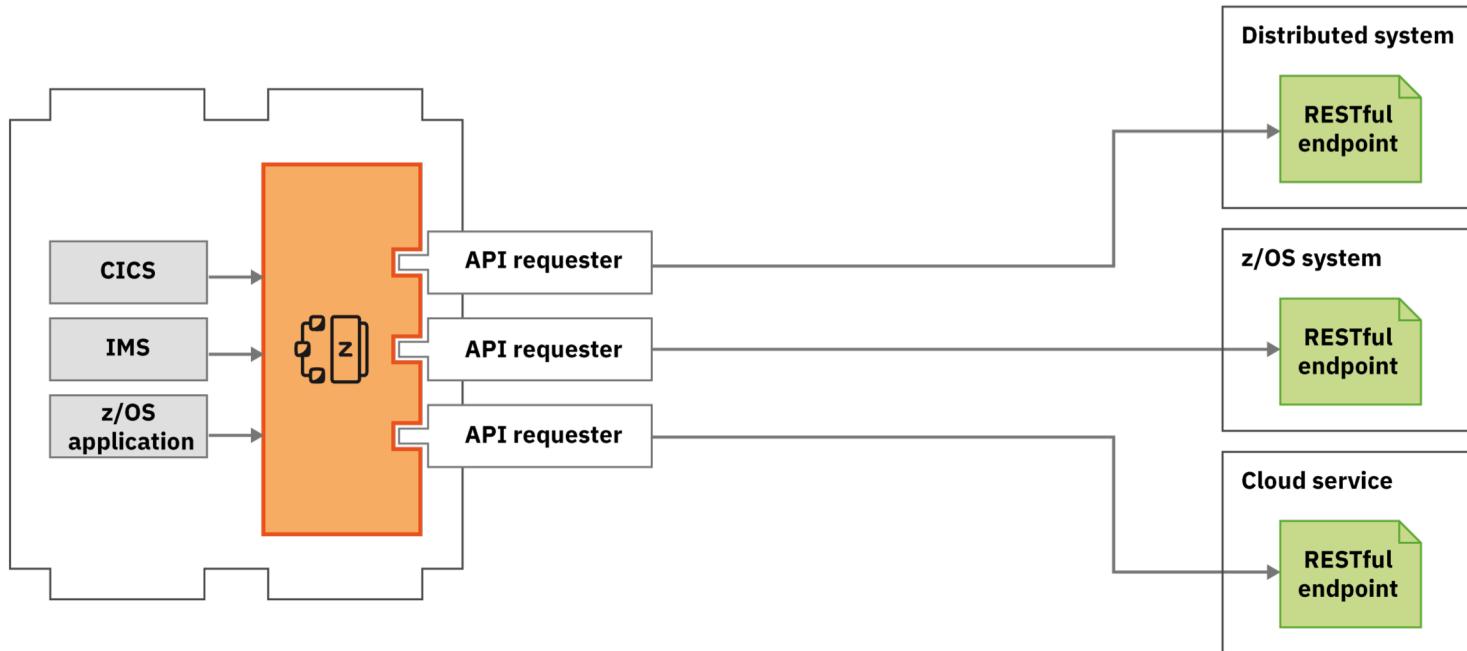
?

?





Use API Requester to call external APIs from z/OS assets.





How do we integrate
with Blockchains?



Mainframe REST APIs



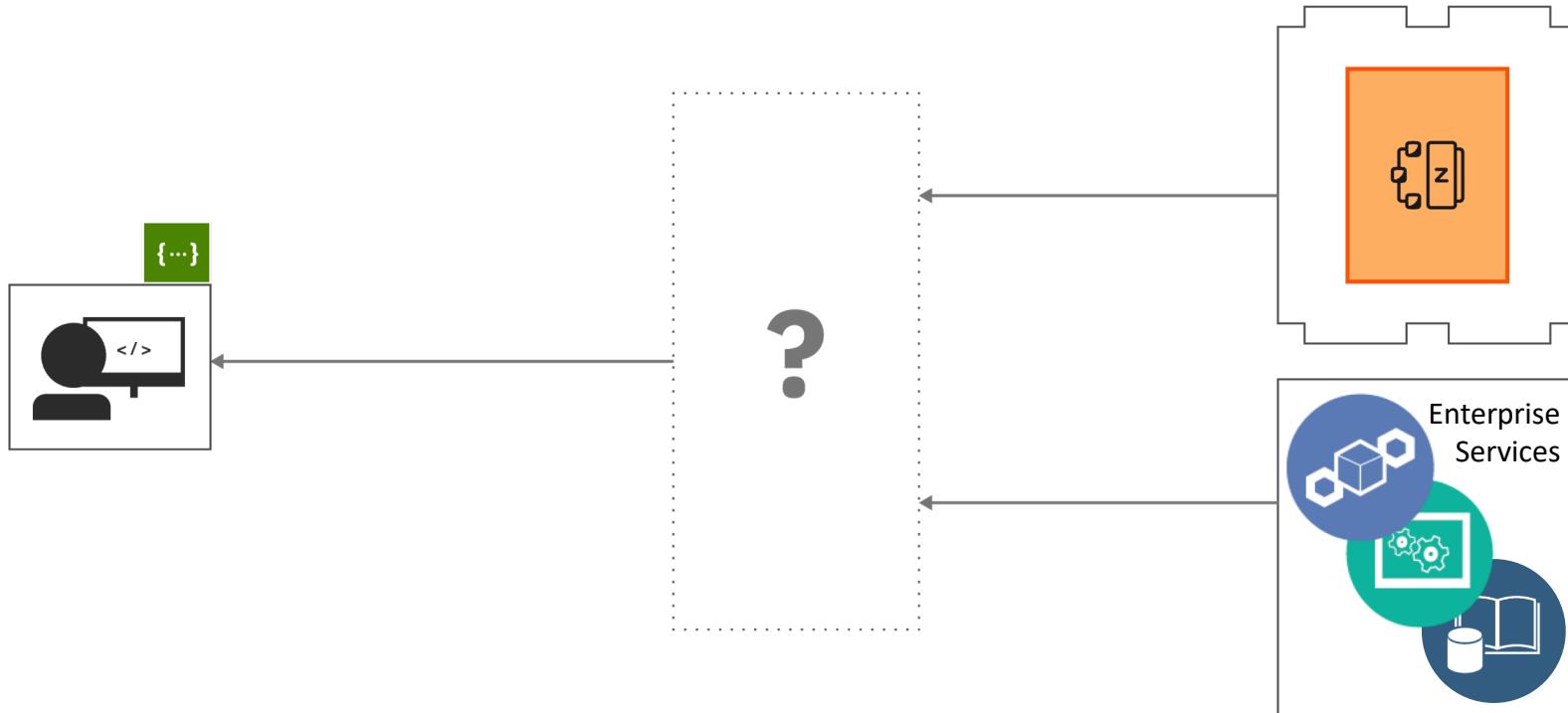
[Publishing APIs to your
Developers]





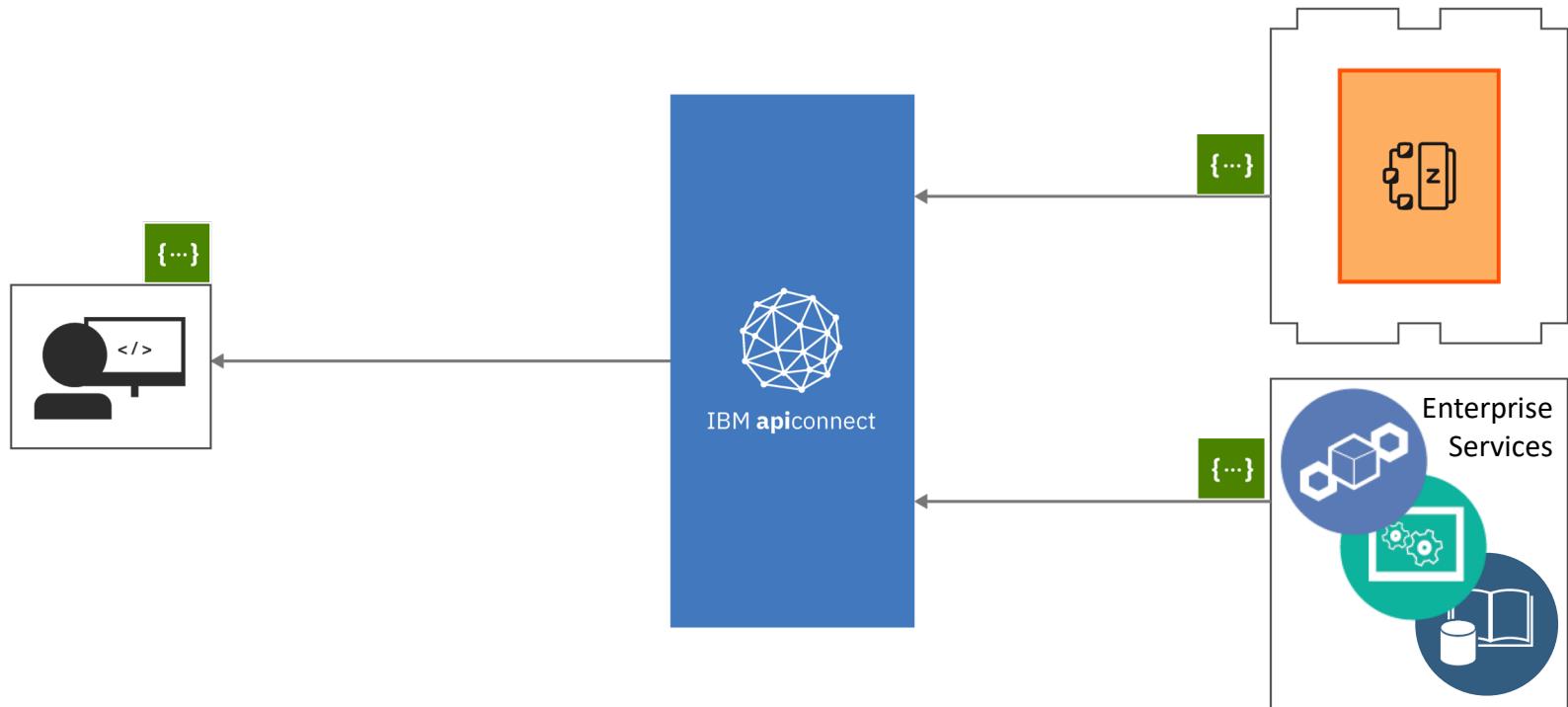
Publishing APIs

How do you publish your APIs to developers?



Publishing APIs

We need an API management gateway!



Pattern: IBM API Connect + IBM Blockchain Platform

IBM Blockchain Platform

Expose 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.

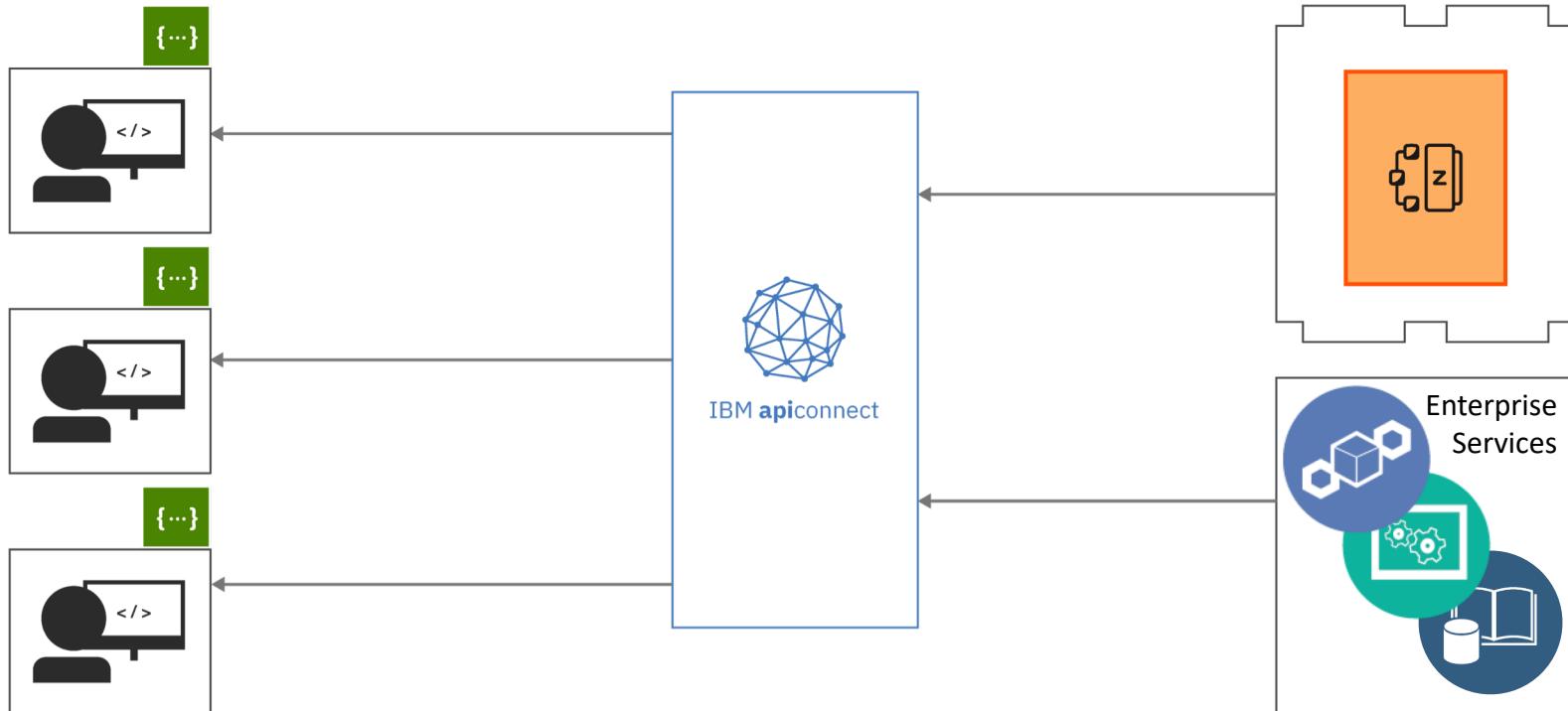
... Enforces threat protection provided by the API Gateway

API Entitlement



z/OS Connect EE

How do you control who has access to your APIs?

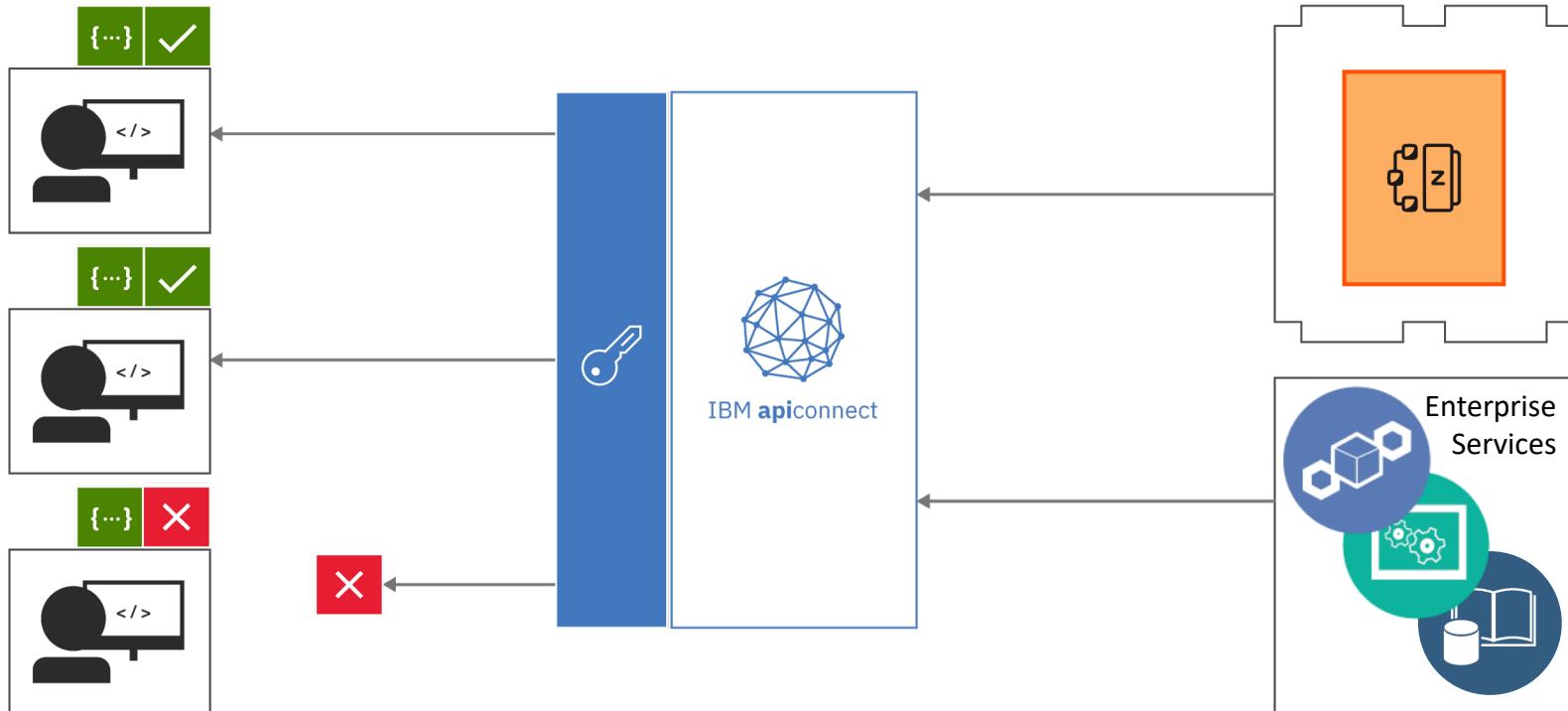


API Entitlement



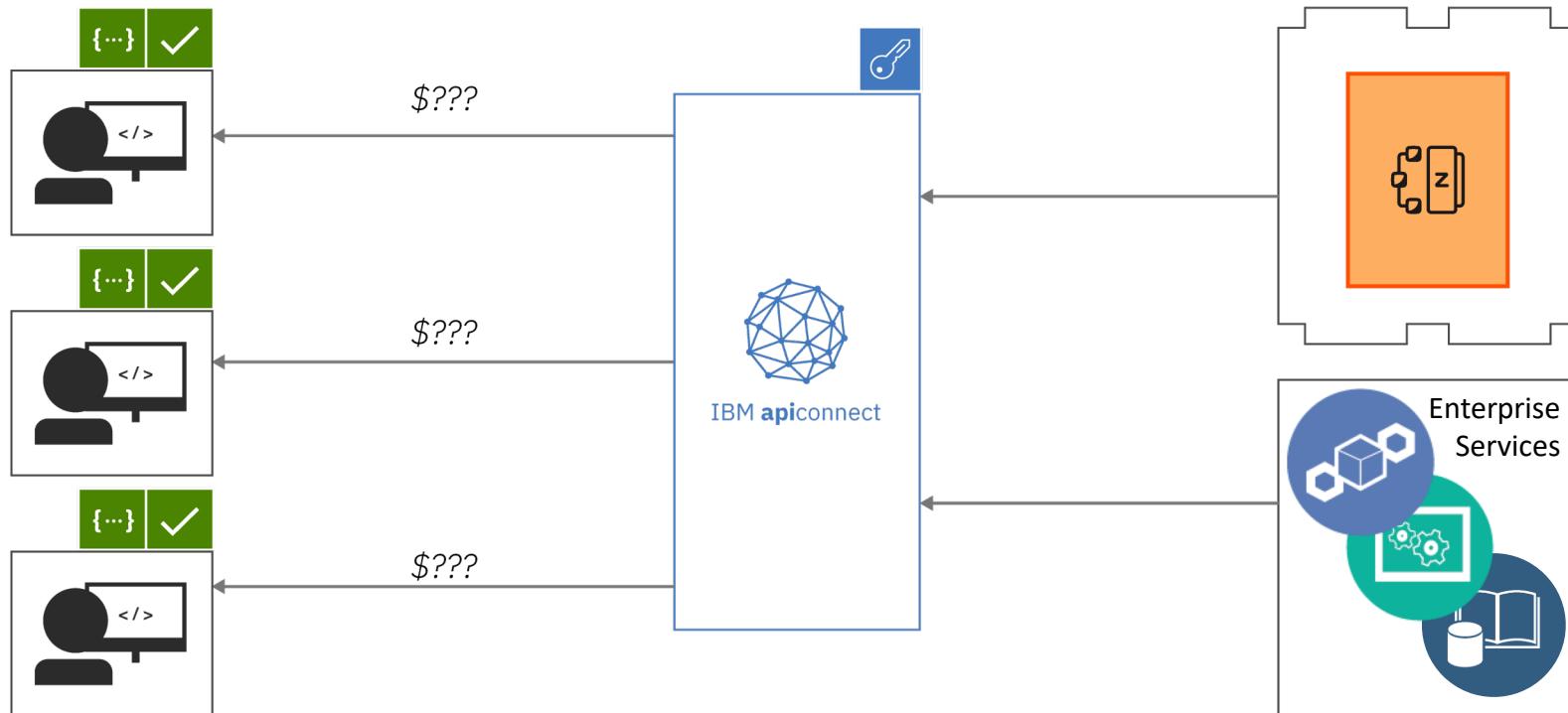
z/OS Connect EE

API Keys!



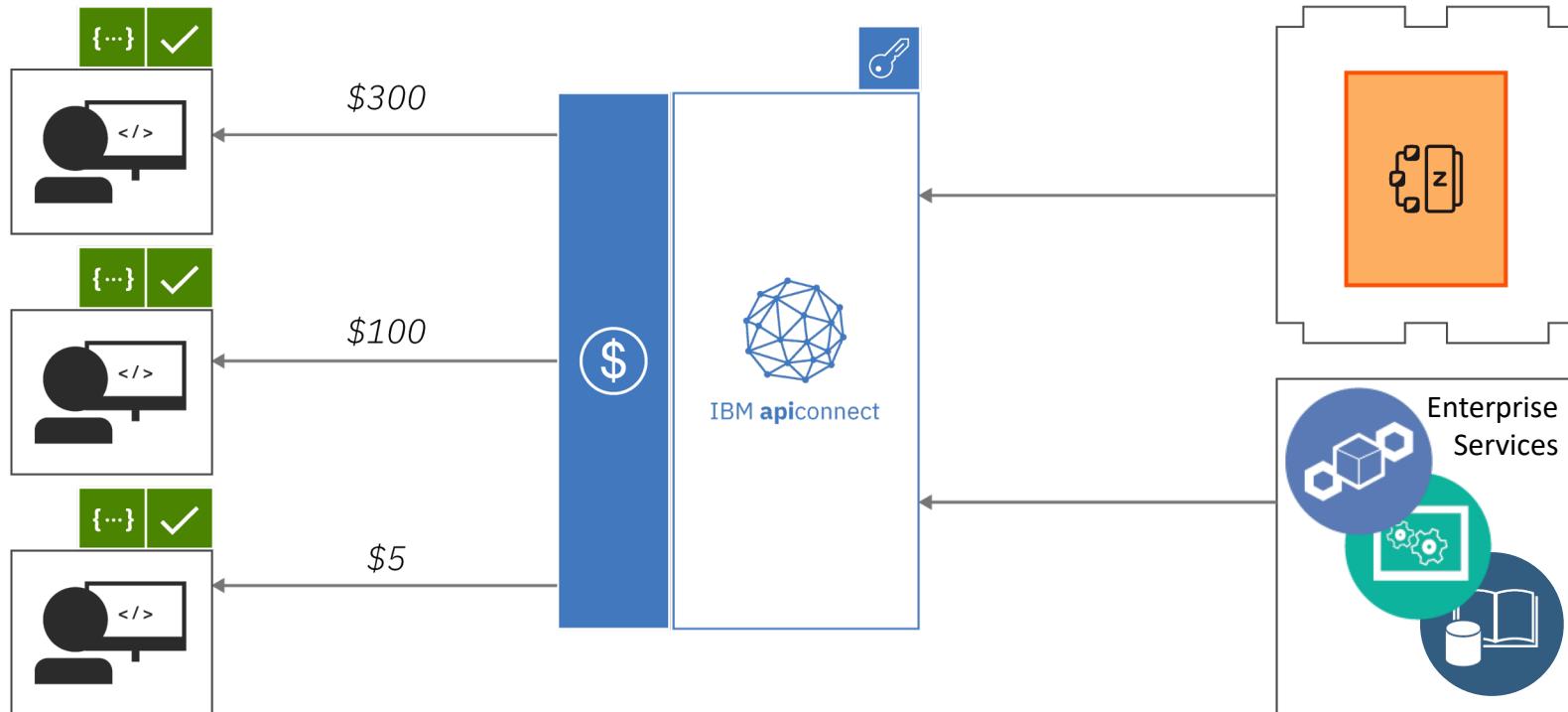
Billing

What about chargeback?



Billing

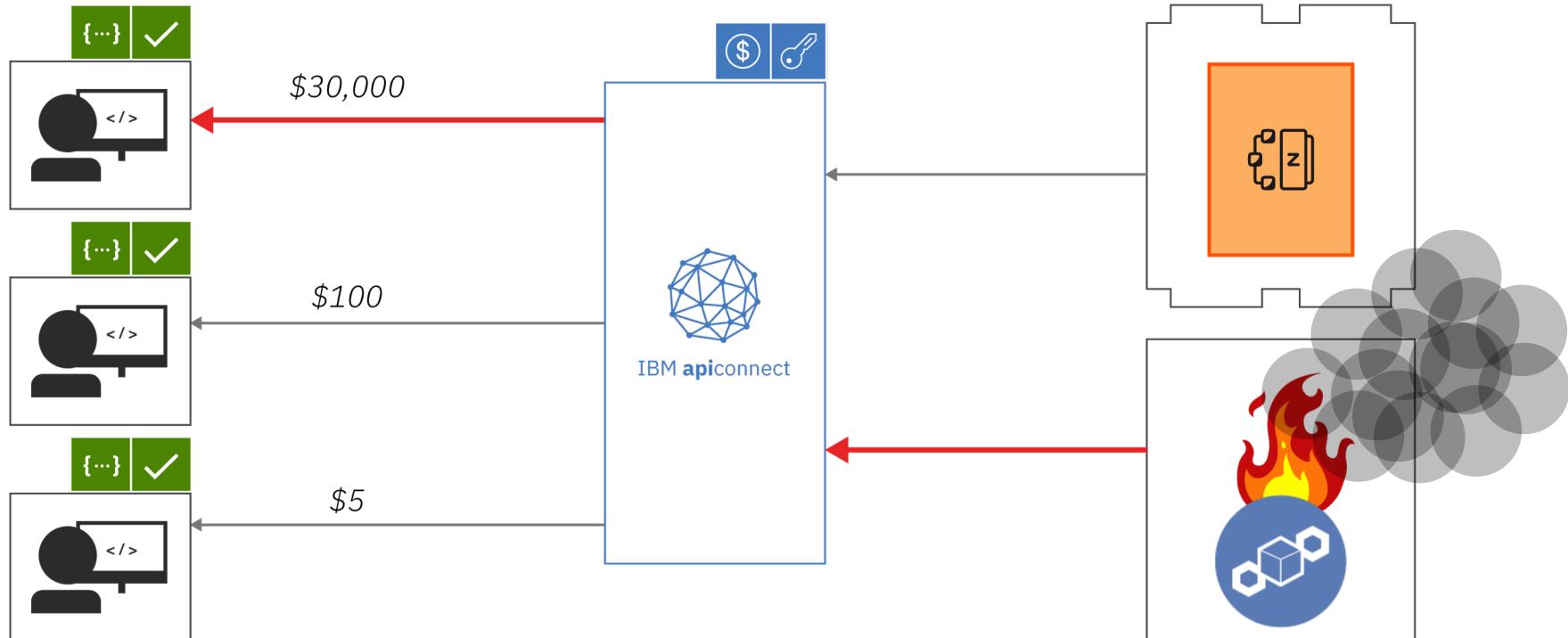
Your API management gateway should monitor usage so you can charge people pro-rata





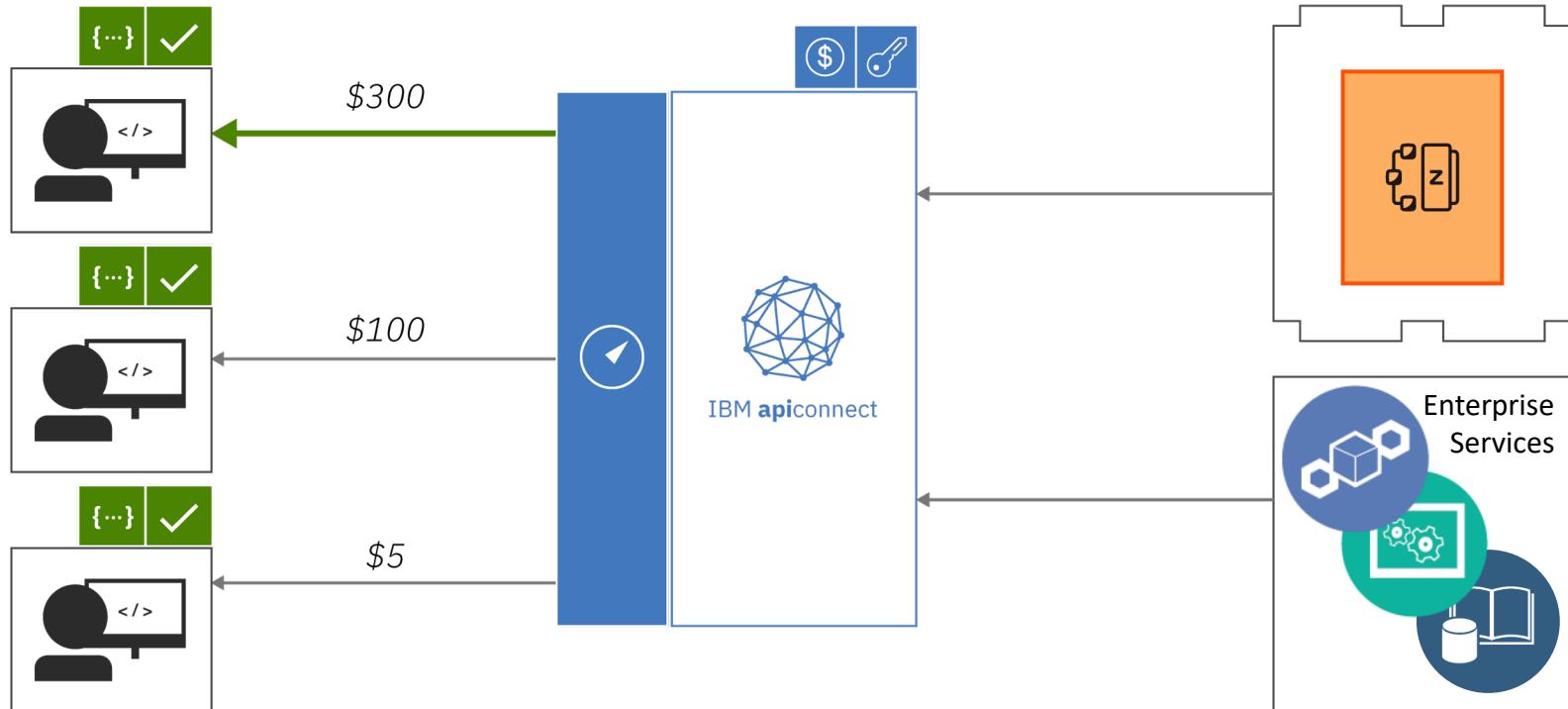
Traffic management

What about bad actors flooding your blockchain?



Traffic management

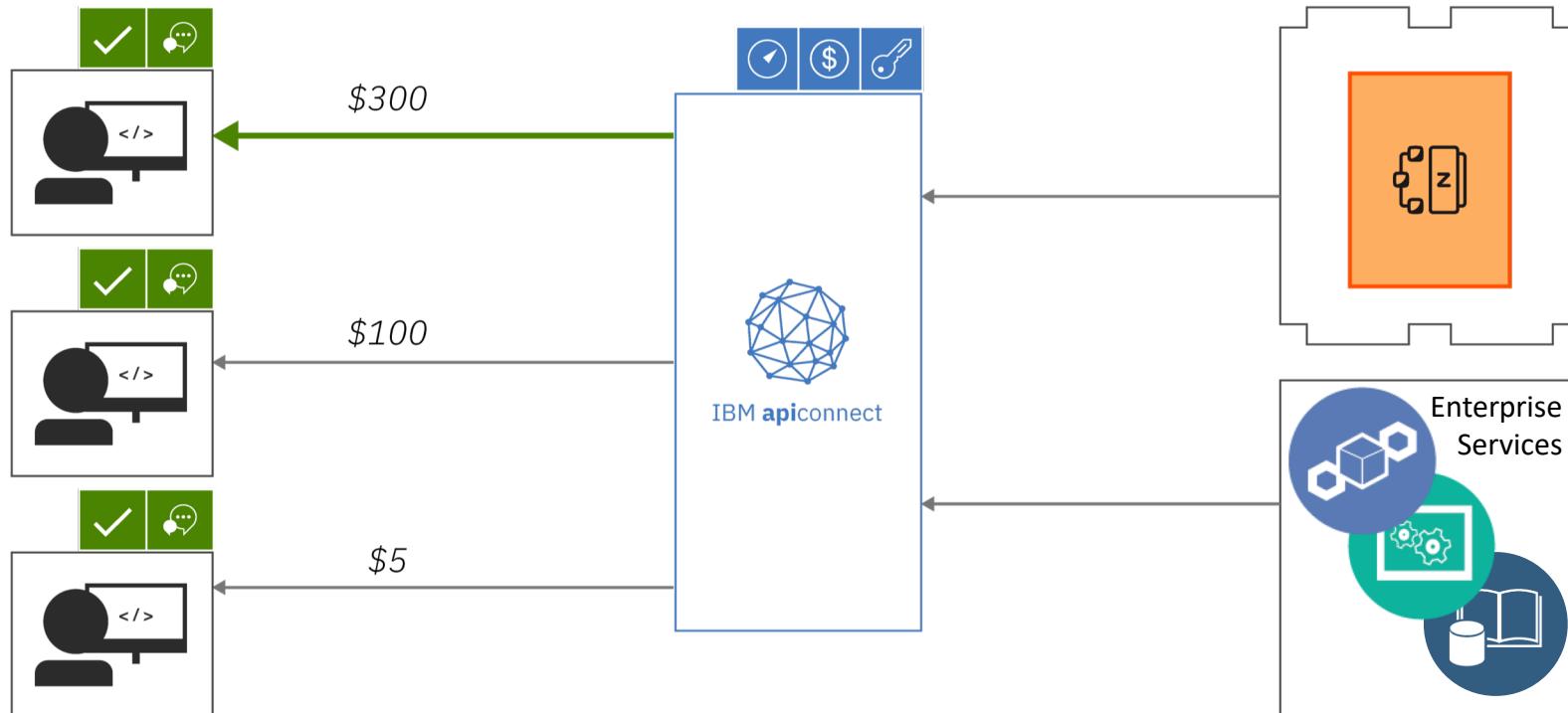
Your API management gateway needs to throttle requests if people exceed their quota





Developer Community

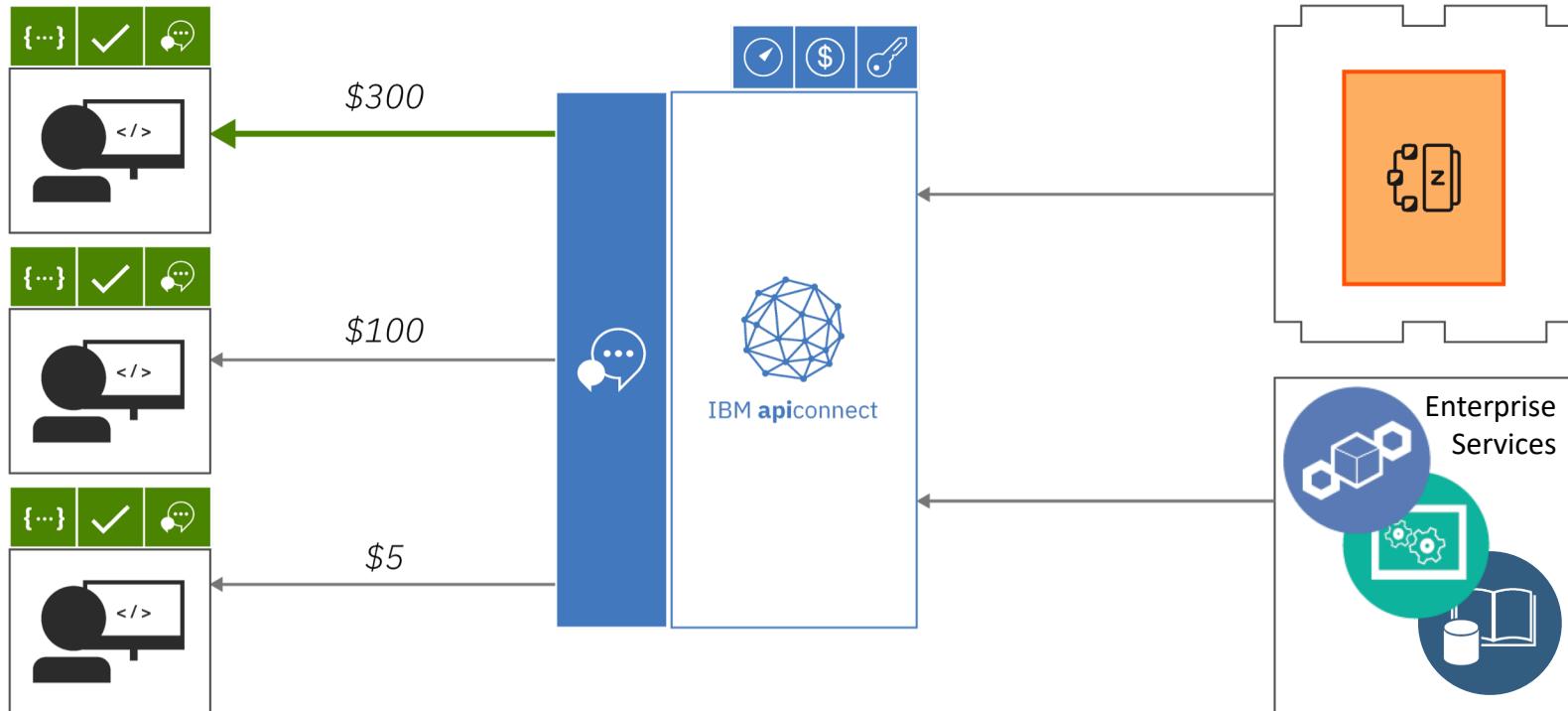
“How do I find out about new versions and upcoming changes?”





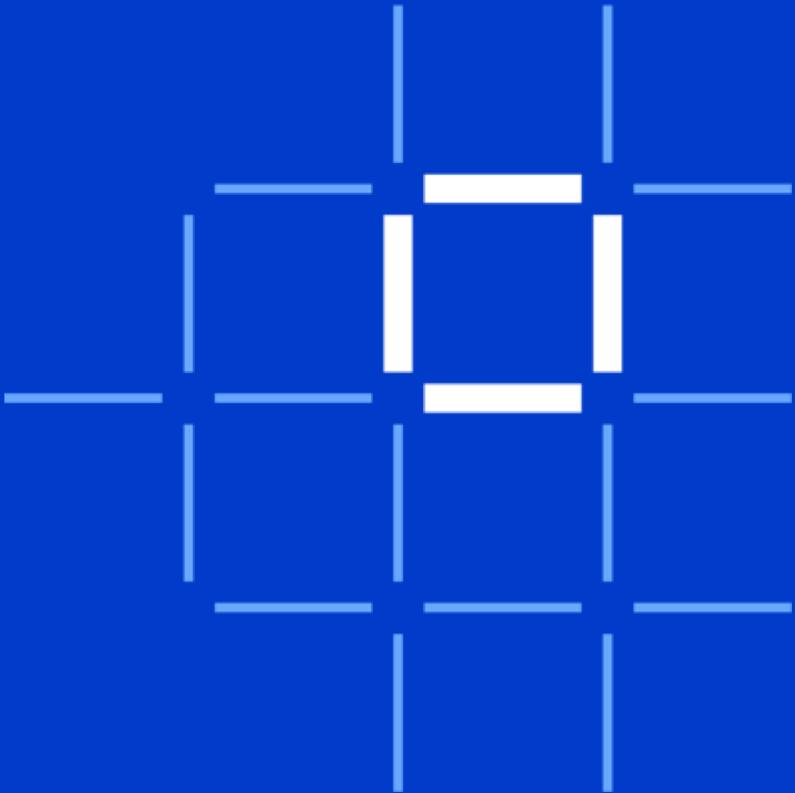
Developer Community

Your API management gateway should allow you to engage with your dev community



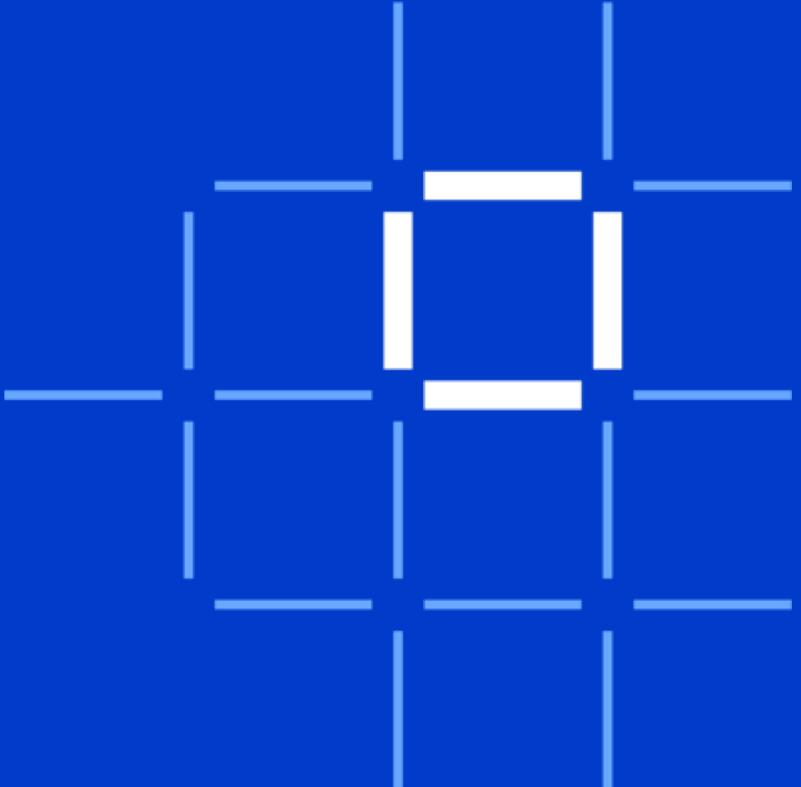
Demo Time

Now let's see it
in practice.



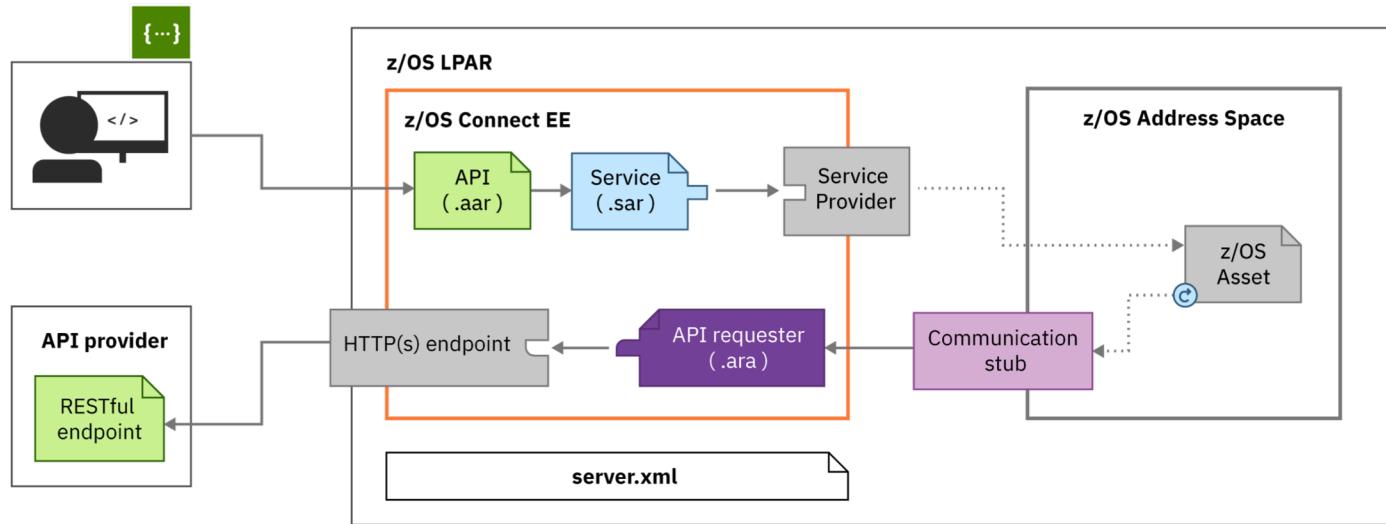
Conclusion

- DLT is reshaping how we do business.
- We must unlock the value of the existing assets
- A well defined backend API strategy is the first step.





Make IBM Z the heart of your API strategy with truly RESTful APIs to and from your mainframe



Get started with the open beta today: ibm.biz/zosconnectdc



IBM z Systems Trial Program

Try the latest z/OS Connect EE capabilities today at zero cost, and with no installation required.



Find out more, and sign up now at ibm.biz/ibmztrial

Thank you

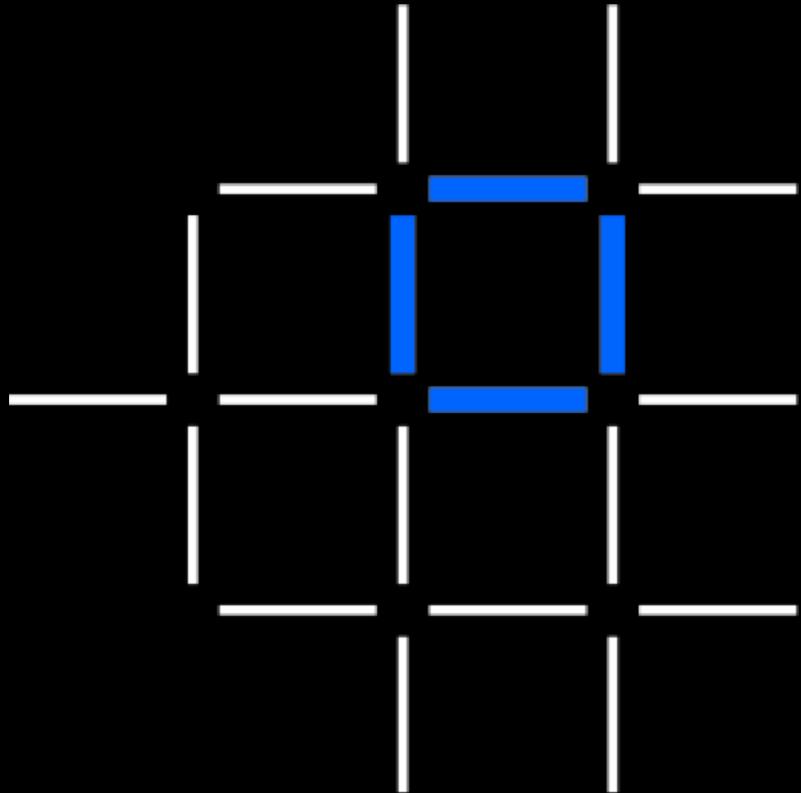
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Senior IT Specialist
IBM Hybrid Cloud Integration*

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

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 IBM Blockchain

 IBM Blockchain





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