

Technology at Visa

Rajat Taneja

EVP, Technology and Operations



Everywhere You Want to Be



VISA

Key Takeaways

- **Technology** is a vital pillar of Visa's business
- The Visa network is engineered to provide unmatched **reliability, security,** and **scale**
- We are transforming our **technology infrastructure** to drive the future of payments
- We employ **best-in-class** cyber defense tools to protect the Visa network and the broader ecosystem
- Our Technology **further**s our innovation and product agenda



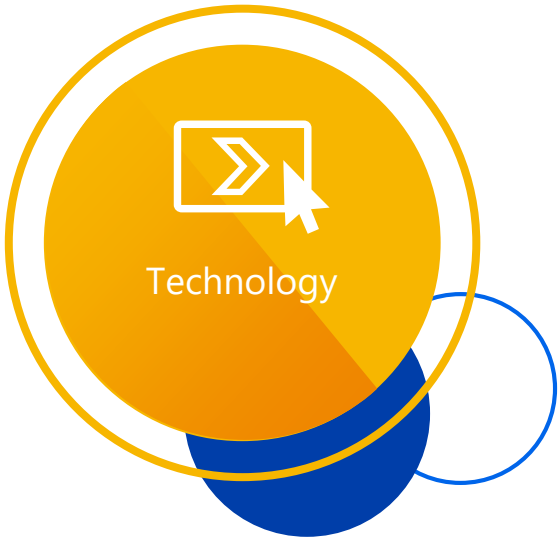
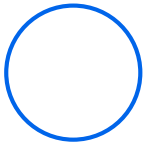
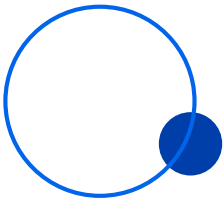
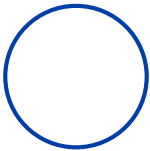
Visa Pillars



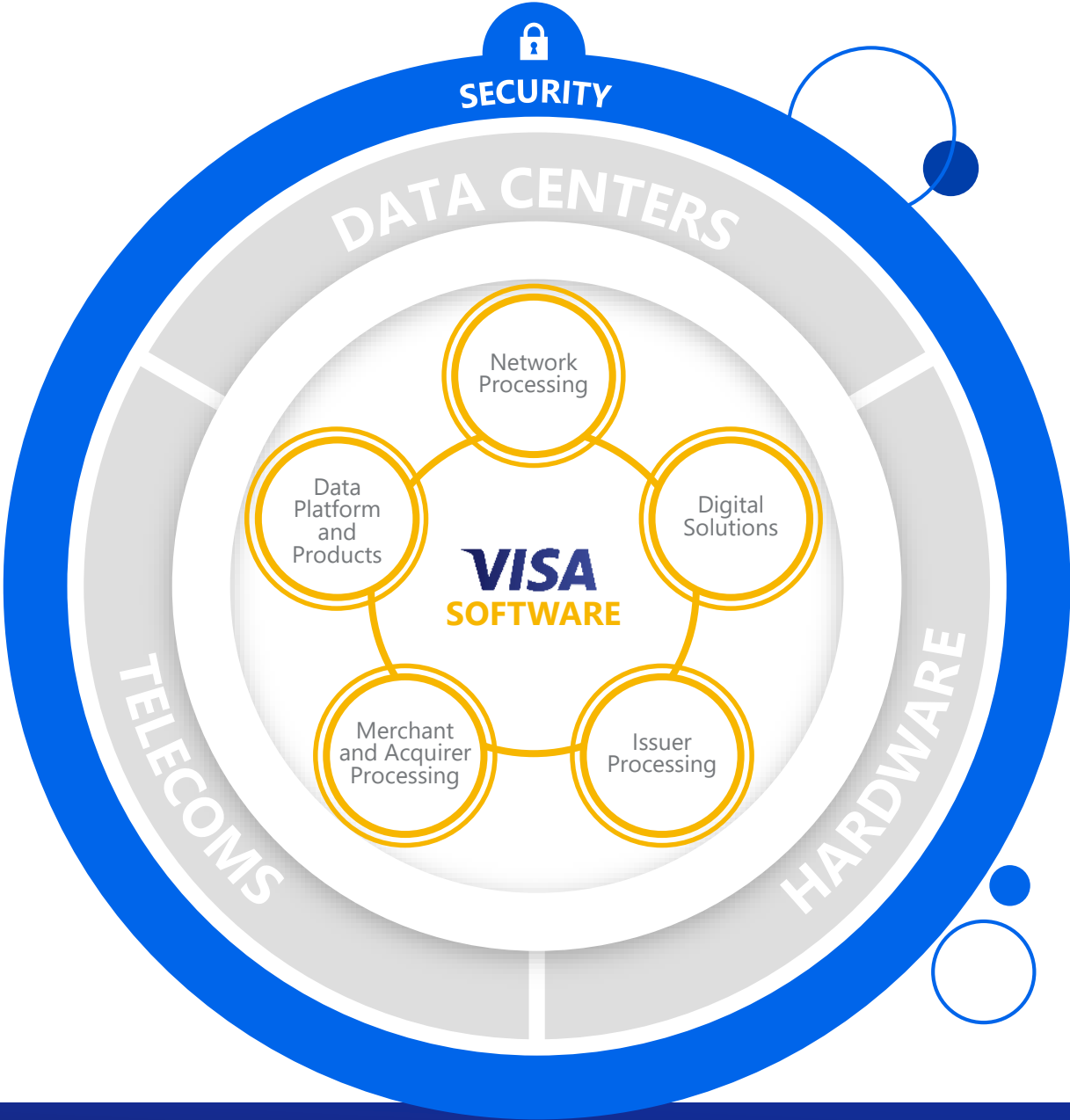
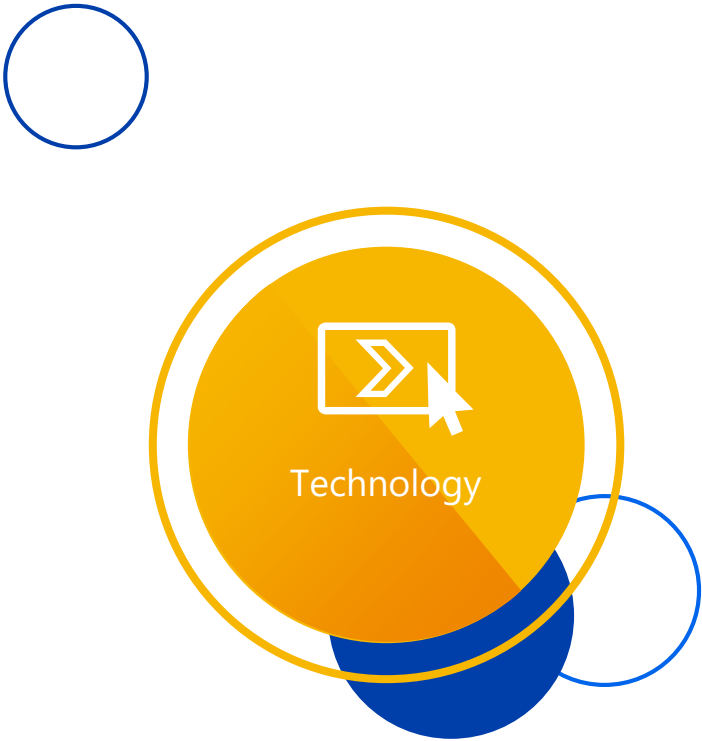
Visa's Technology



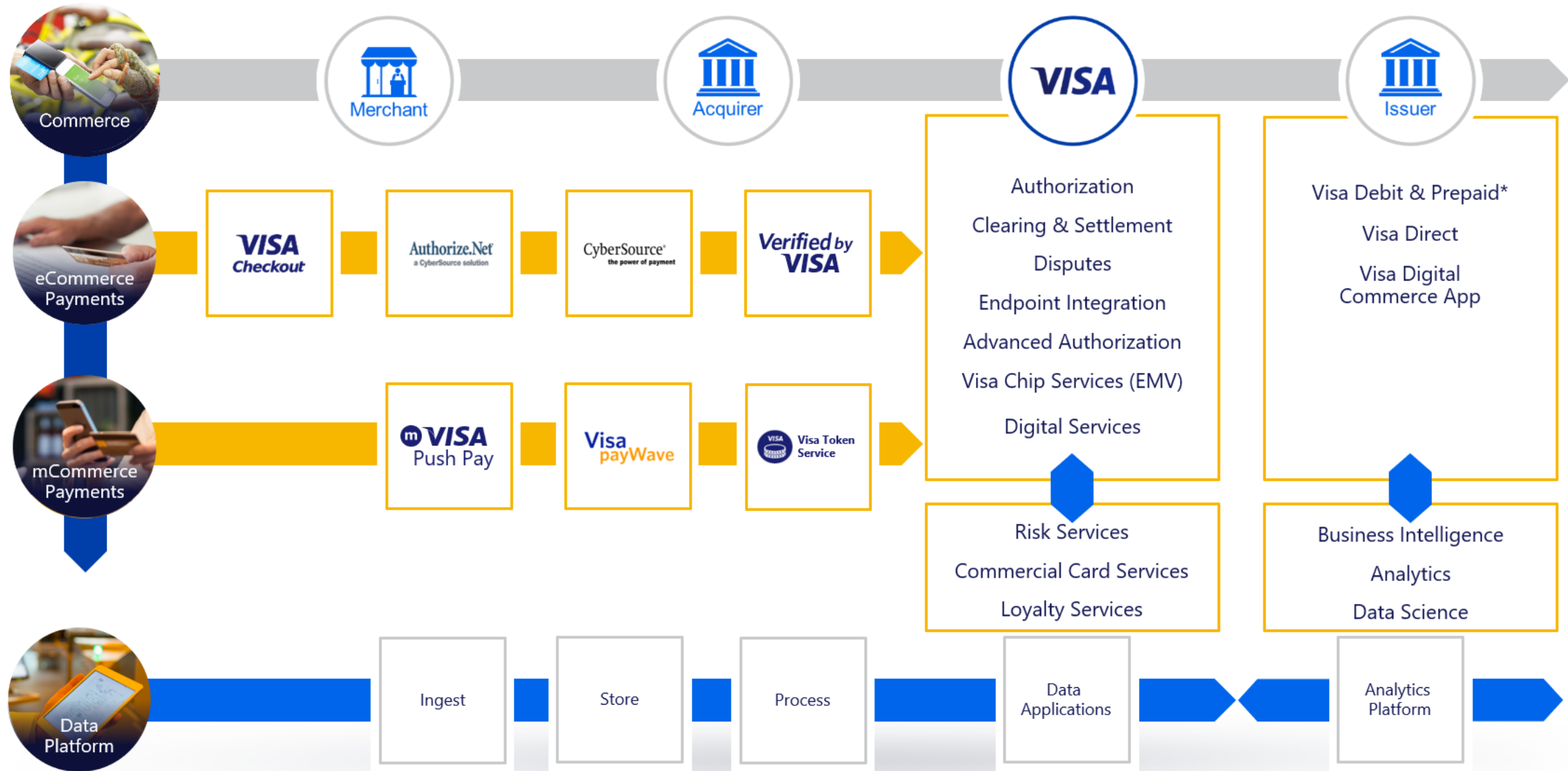
Visa's Technology



Visa's Technology



Software



Hardware

Mainframes

Open
Systems

SOFTWARE DEFINED

SOFTWARE DEFINED

Storage
Arrays

Network

VISA

100B+
Processed
Transactions

160
Currencies

200+
Countries and
territories

VISA

Source: Visa operational performance data for CY 2016 including Europe in all periods

VISA

Data Centers




- Multiple data centers interconnected via multiple high-bandwidth circuits
- Redundant connectivity, power and cooling systems
- Data replication across centers for seamless failover
- Designed to support processing growth for the next 15 years

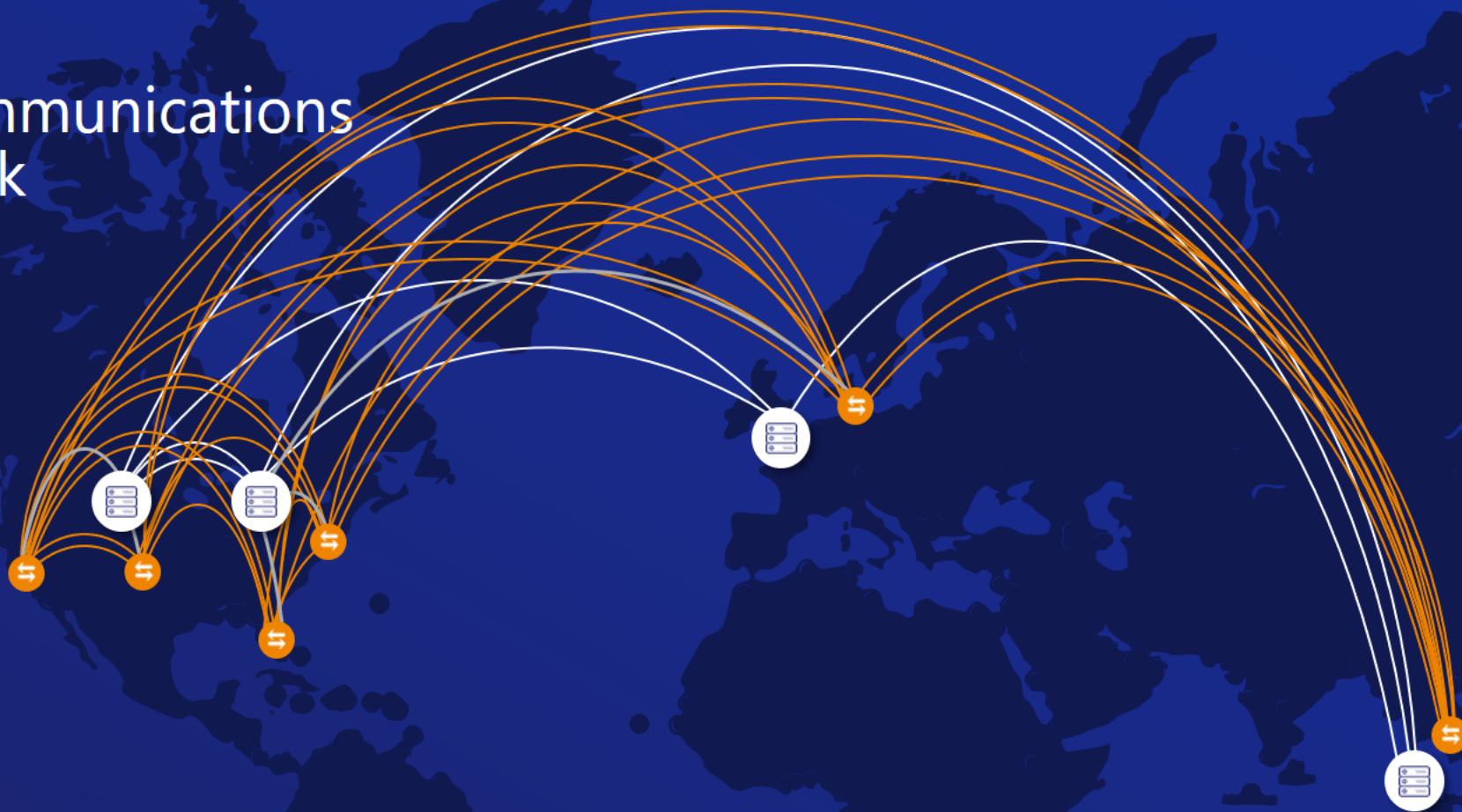


Global Telecommunications Network

- 
- Visa Data Center
 - Internet Exchange
 - Client Data Center

Global Telecommunications Network

-  Visa Data Center
-  Internet Exchange
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Global Telecommunications Network

MPLS VPN network
covering a total distance
of more than **10 million
miles**

-  Visa Data Center
-  Internet Exchange
-  Client Data Center



Scaling Up for 10 X



3B+

Cards

VisaNet

44MM

Merchant Locations

Source: Visa Operating Certificates CY2016. Merchant locations are provided by Visa's issuing and acquiring financial institutions; card counts include cards carrying the Visa, Visa Electron, V PAY and Interlink brands as well as PLUS proprietary cards.

Scaling Up for 10 X



~30B

Ways to Pay



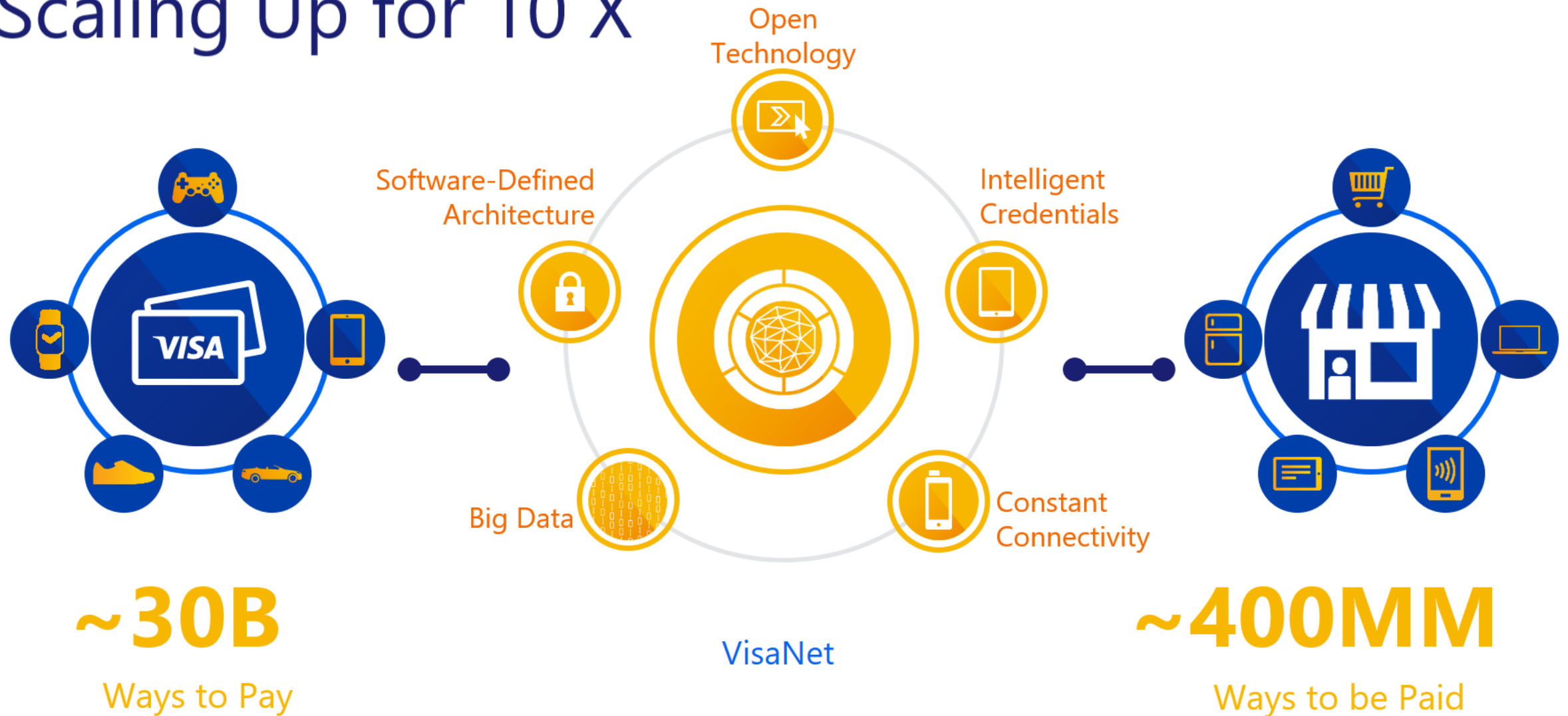
VisaNet



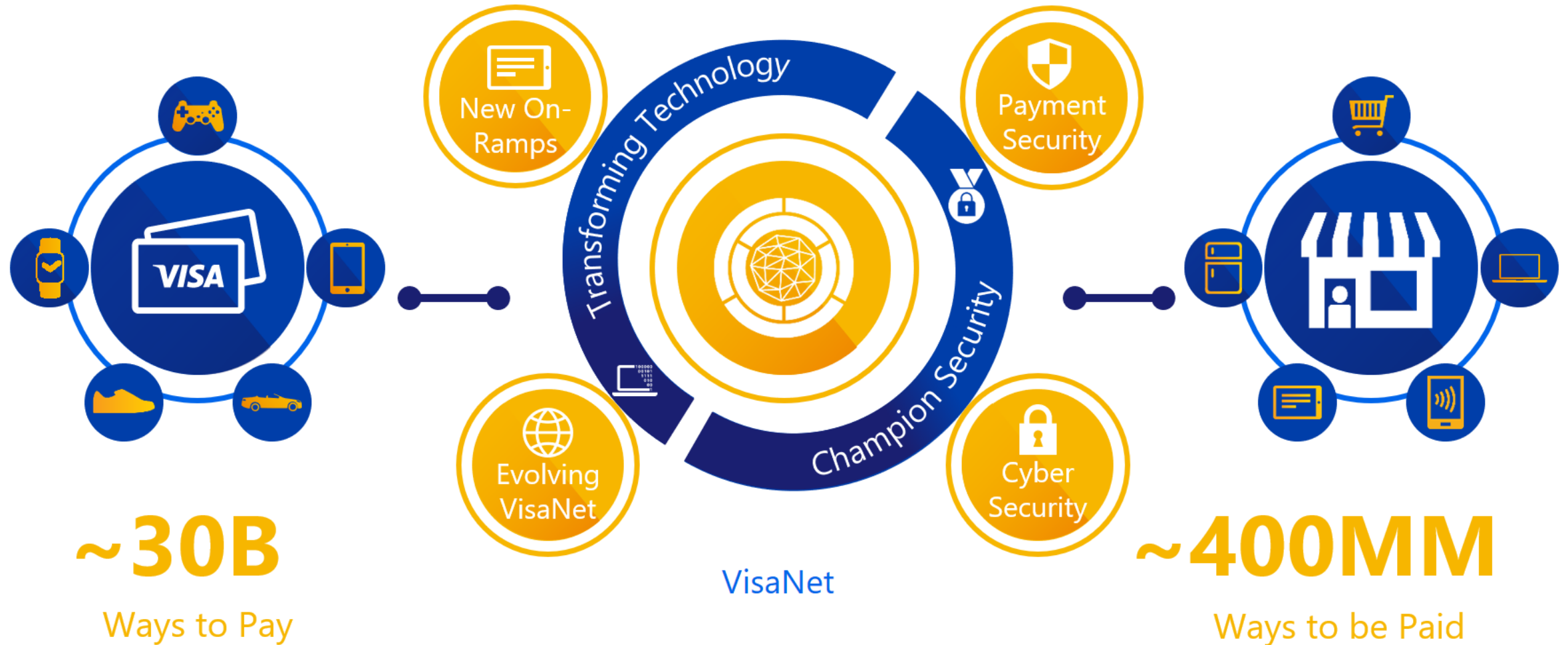
~400MM

Ways to be Paid

Scaling Up for 10 X



Scaling Up for 10 X



New On-Ramps to VisaNet



Visa Developer Portal

Digital Products

Digital Platform

Registration and profile

- Register user
- Register service
- Register card
- Administrative

Card validation

- User validation
- Service validation
- Account validation
- Card validation

Payment tokens

- Provision SE
- Provision ICE
- Provision CoF
- Provision other



VisaNet

Payment methods

- Scan QR
- Tap NFC
- Stream ecommerce
- Push P2P

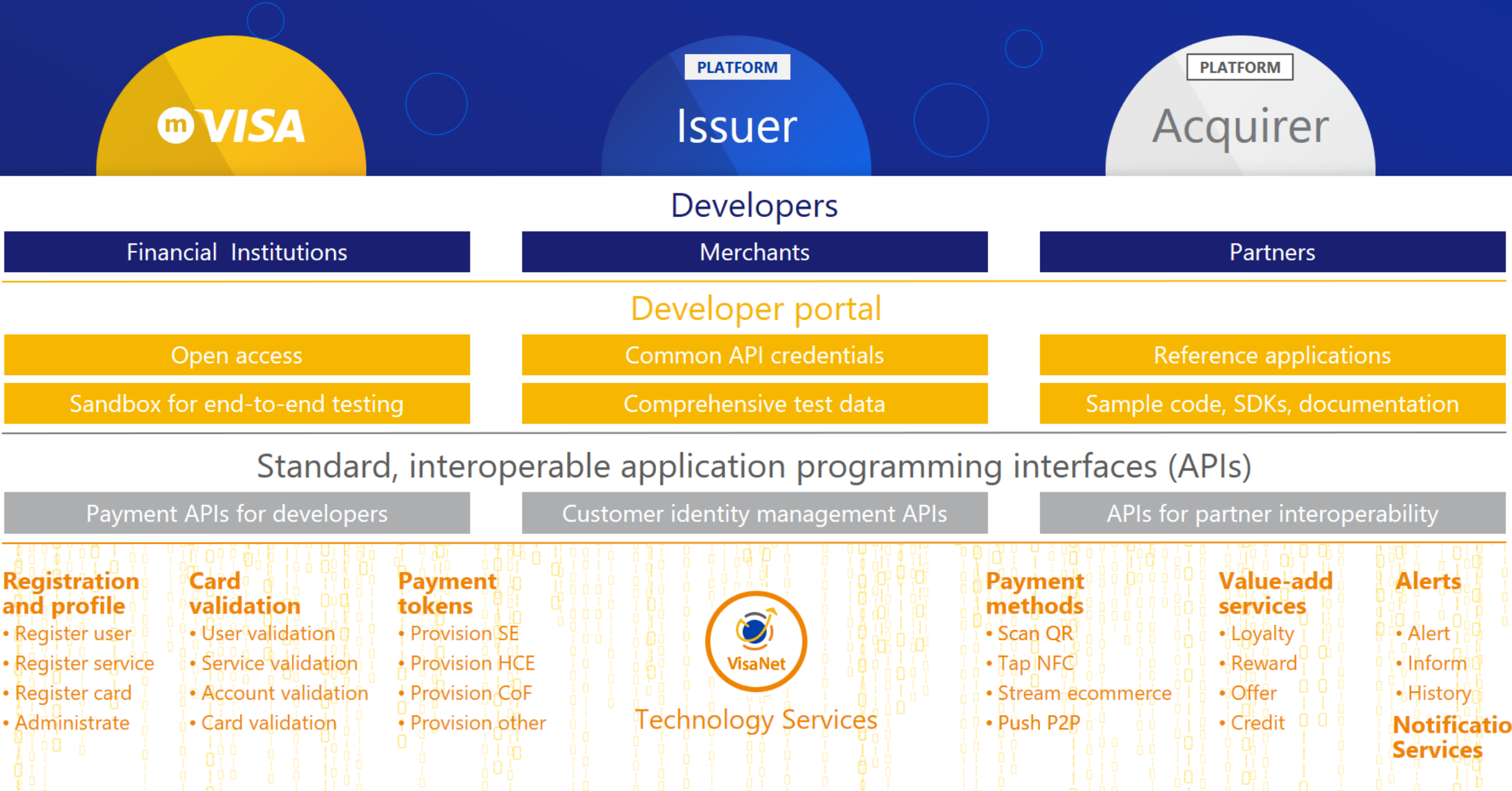
Value-add services

- Loyalty
- Reward
- Offer
- Credit

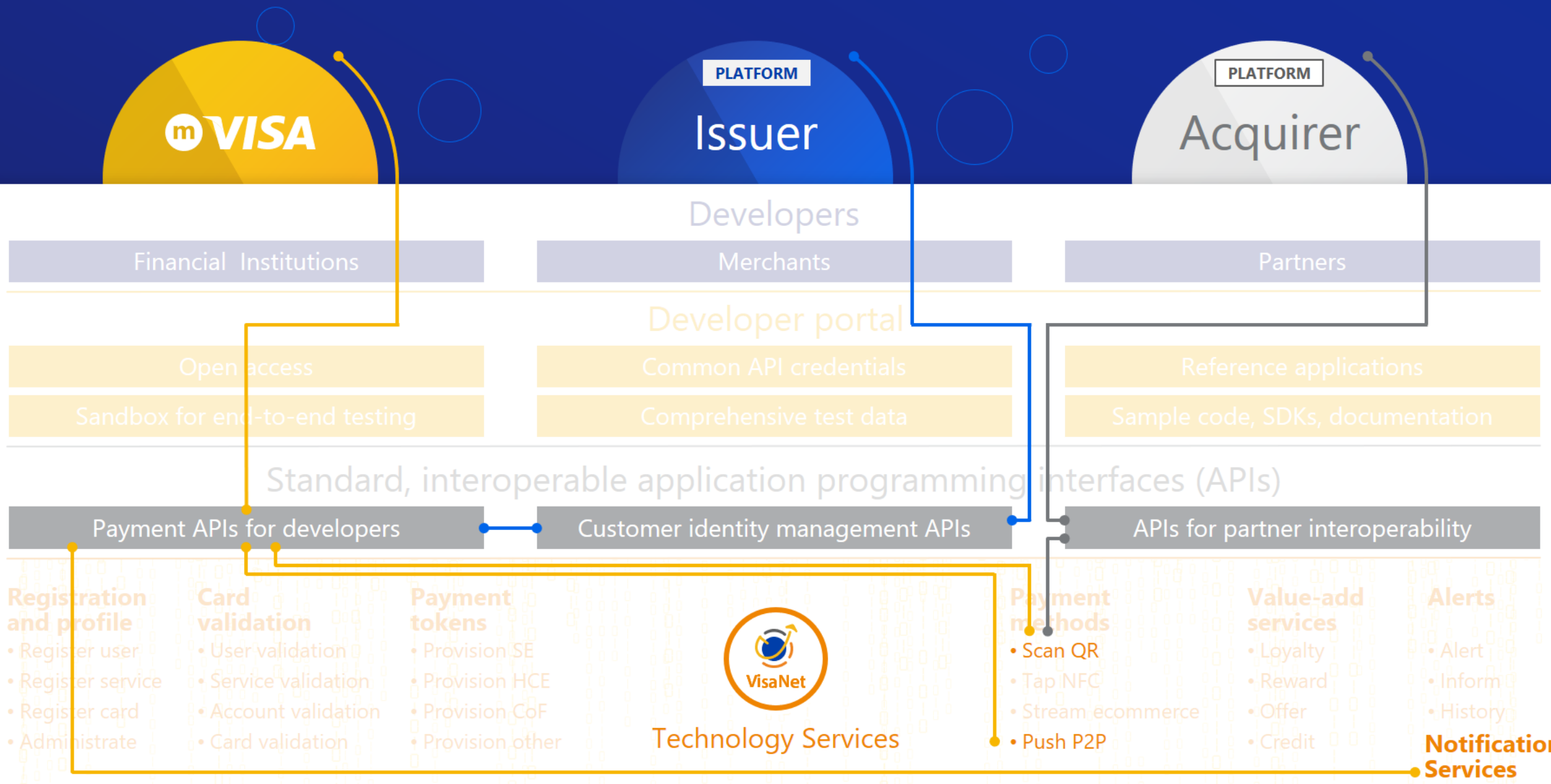
Alerts

- Alert
- Inform
- History

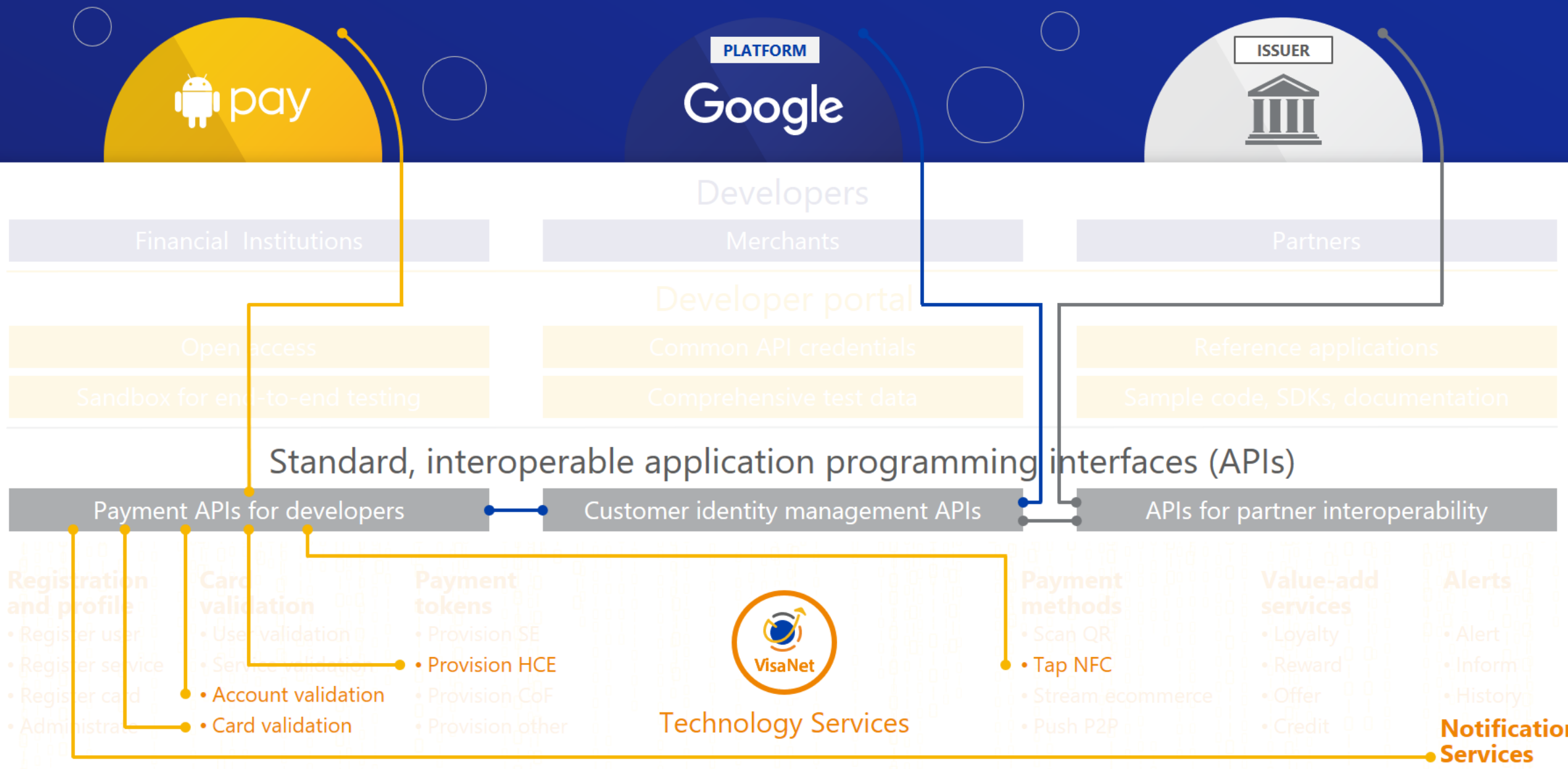
mVisa (Push Payments)



mVisa (Push Payments)



NFC Mobile Payments



Evolving VisaNet



Payment Security

Protect Data

Safeguard payment data

- Encryption
- PCI



Harness Data

Stop fraud before it occurs

- Detection
- Disruption
- Exchange
- Authentication



Devalue Data

Render data useless

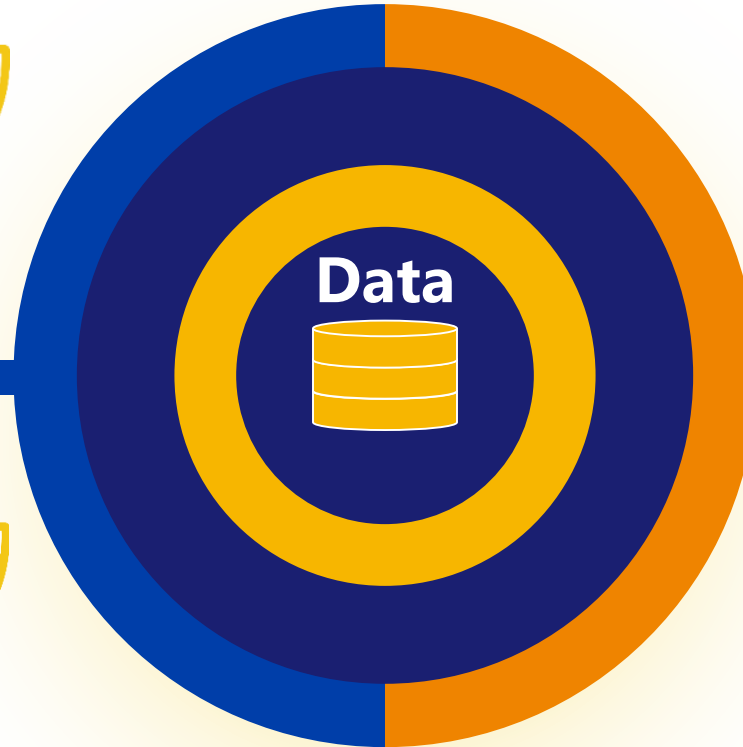
- EMV chip
- Tokenization



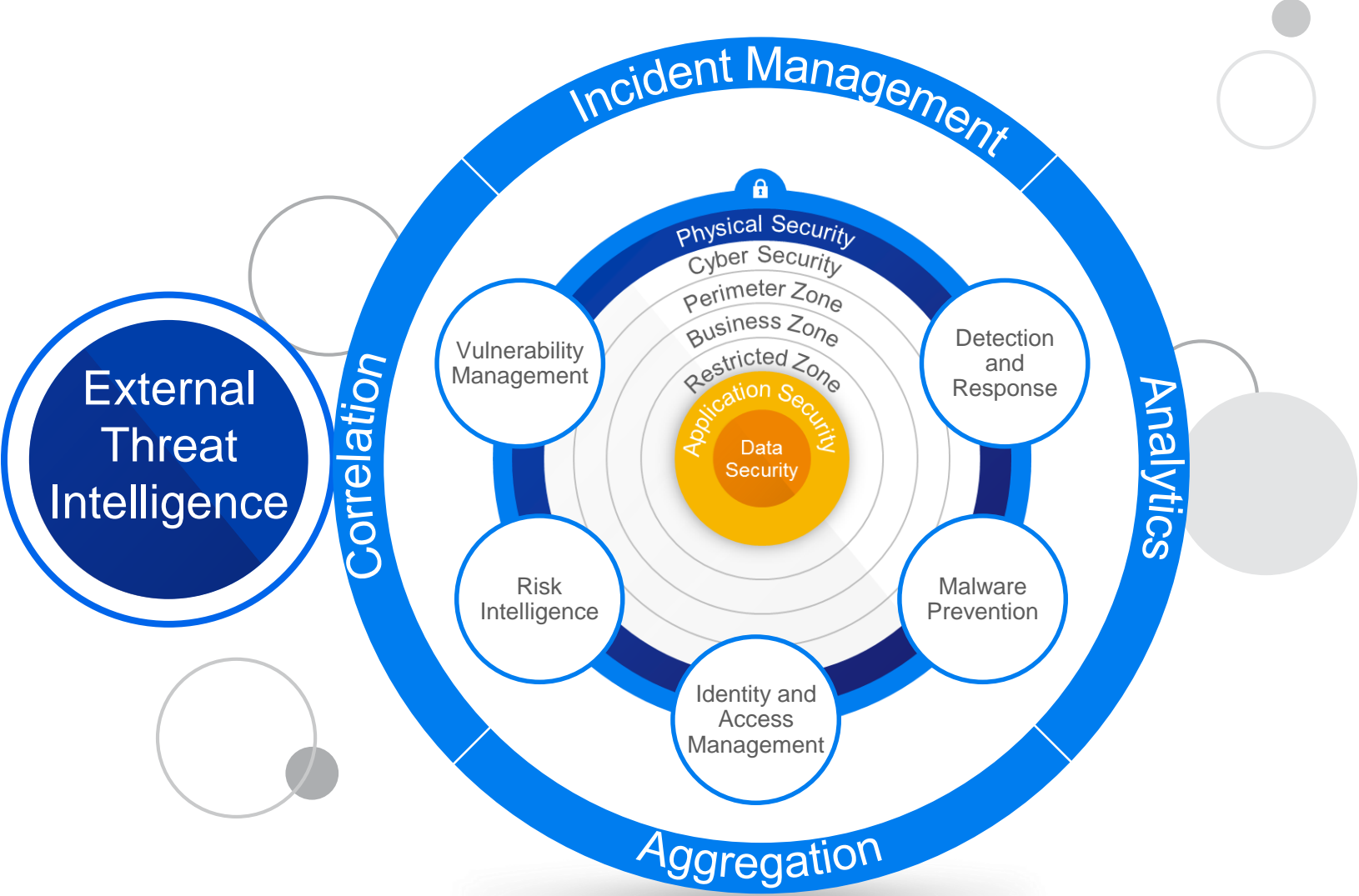
Empower Consumers

Engage cardholders in payment security

- Alerts
- Digital controls

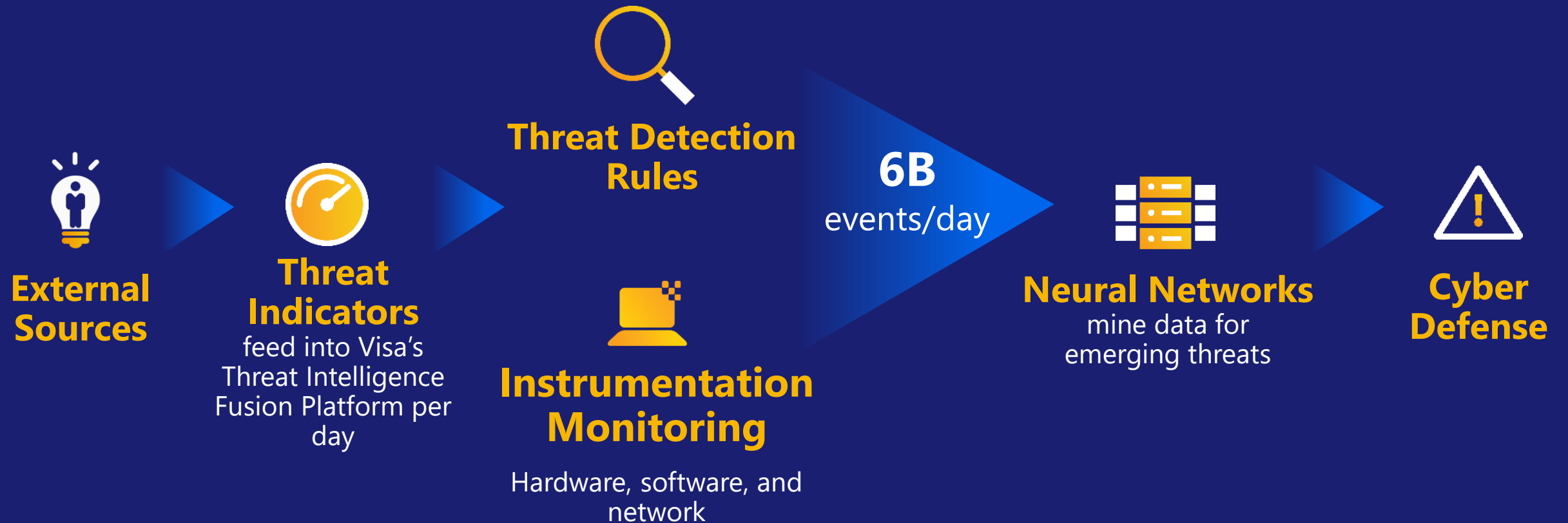


Cyber Security



Intelligence-Driven Security Architecture

Moving from Reactive to Proactive



Supporting Our Innovation Agenda

- Driving innovation through client co-creation sessions
- Building rapid prototypes of next generation payment experiences across industries and cardholder scenarios
- Exploratory engineering in blockchain, IoT, VR



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This presentation contains forward-looking statements within the meaning of the U.S. Private Securities Litigation Reform Act of 1995 that relate to, among other things, our future operations, prospects, developments, strategies, business growth and financial outlook. Forward-looking statements generally are identified by words such as "believes," "estimates," "expects," "intends," "may," "projects," "could," "should," "will," "continue" and other similar expressions. All statements other than statements of historical fact could be forward-looking statements, which speak only as of the date they are made, are not guarantees of future performance and are subject to certain risks, uncertainties and other factors, many of which are beyond our control and are difficult to predict. We describe risks and uncertainties that could cause actual results to differ materially from those expressed in, or implied by, any of these forward-looking statements in our filings with the U.S. Securities and Exchange Commission, including our Annual Report on Form 10-K for the year ended September 30, 2016 and our subsequent reports on Forms 10-Q and 8-K. Except as required by law, we do not intend to update or revise any forward-looking statements as a result of new information, future events or otherwise.

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