

VERTICAL MARKET BREAKOUT SESSION

RETAIL / MERCHANT

Sponsored by:

CardWare

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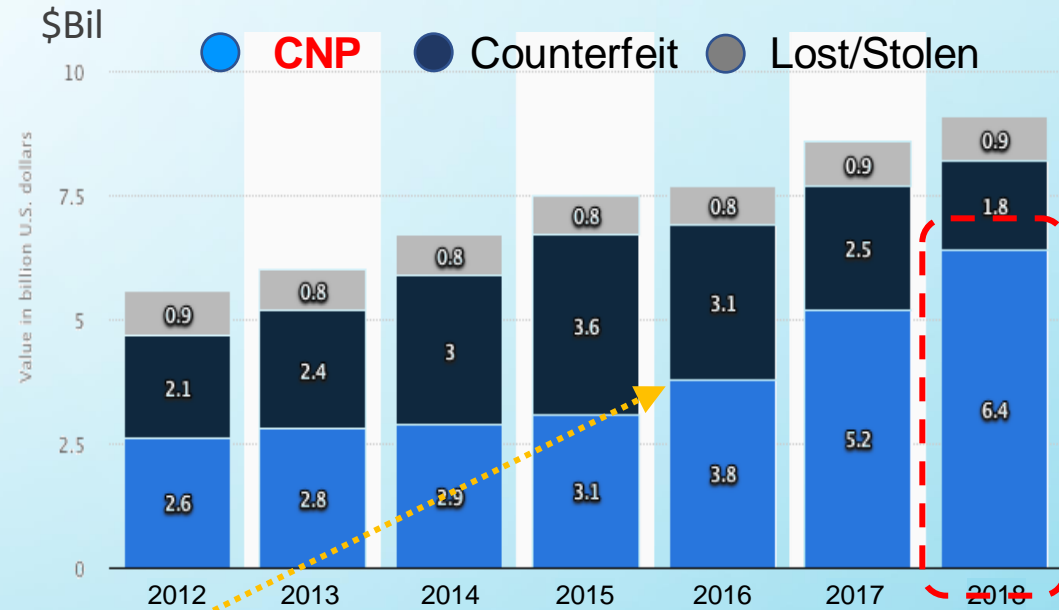
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Industry Problem: Online CNP Fraud Increasing

2017 : Projections

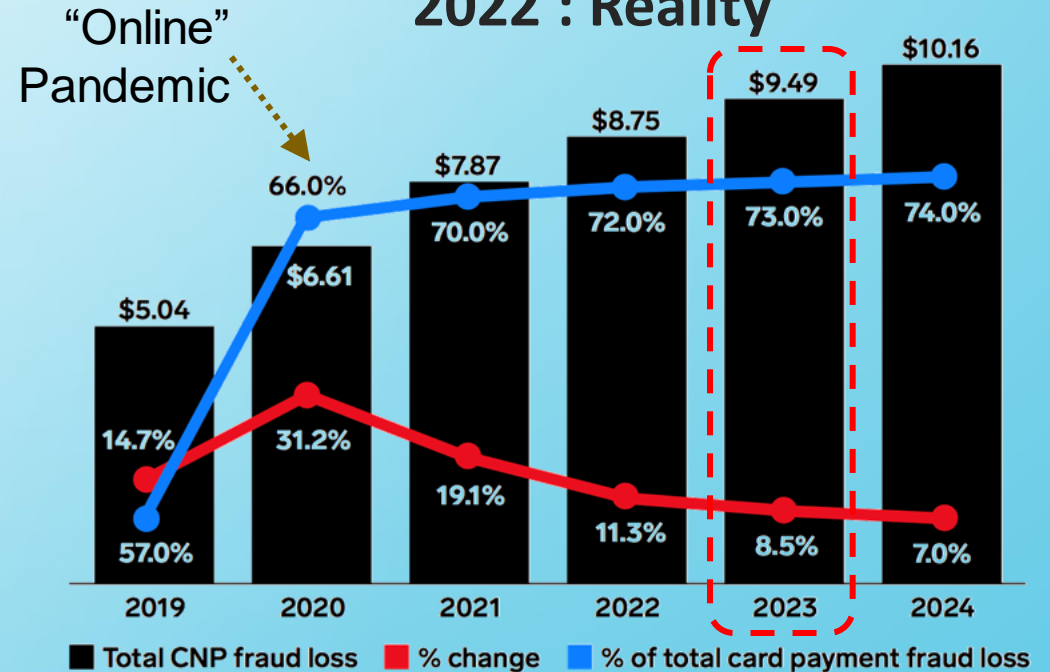


EMV Payment Card

2018 CNP fraud: \$6.4bil

[https://www.juniperresearch.com/press/press-releases/online-transaction-fraud-to-more-than-double-to-\\$2](https://www.juniperresearch.com/press/press-releases/online-transaction-fraud-to-more-than-double-to-$2)

2022 : Reality



2023 CNP fraud: \$9.5bil

<https://www.insiderintelligence.com/content/card-not-present-fraud-payment>



Consumers: Anxiety. Increasingly painful.

2022, #1 US Crime Worry : “Having personal, credit card or financial information stolen by computer hackers” = 74% in 2021 (remained #1 on Gallup polls, **since 2013**)

<https://news.gallup.com/poll/357116/crime-fears-rebound-lull-during-2020-lockdowns.aspx>

Americans' Increased Worry About Specific Crimes, 2020-2021

% Who worry frequently or occasionally about each type of crime

	2019	2020	2021	2020-2021
	%	%	%	change pct. pts.
Getting mugged	30	24	33	+9
Having your car stolen or broken into	41	34	43	+9
Your home being burglarized when you are not there	43	35	43	+8
Your home being burglarized when you are there	26	20	28	+8
Being attacked while driving your car	20	23	29	+6
Being a victim of identity theft	67	66	72	+6
Getting murdered	20	17	22	+5
Being the victim of terrorism	29	25	30	+5
Having a school-aged child of yours physically harmed while attending school	39	30	34	+4
Being assaulted or killed by a coworker or other employee where you work	7	6	9	+3
Being the victim of a hate crime	25	28	31	+3
Being sexually assaulted	23	19	21	+2
Having your personal, credit card or financial information stolen by computer hackers	72	72	74	+2

GALLUP

#2 : 72% Online Phishing, hacking ... etc

#1 : 74% Online Payment Theft, CNP Fraud ...

Pain: Last 12 months, 40% of US card users wasted an avg. 1-4 weeks, replacing the “more secure” Chip cards

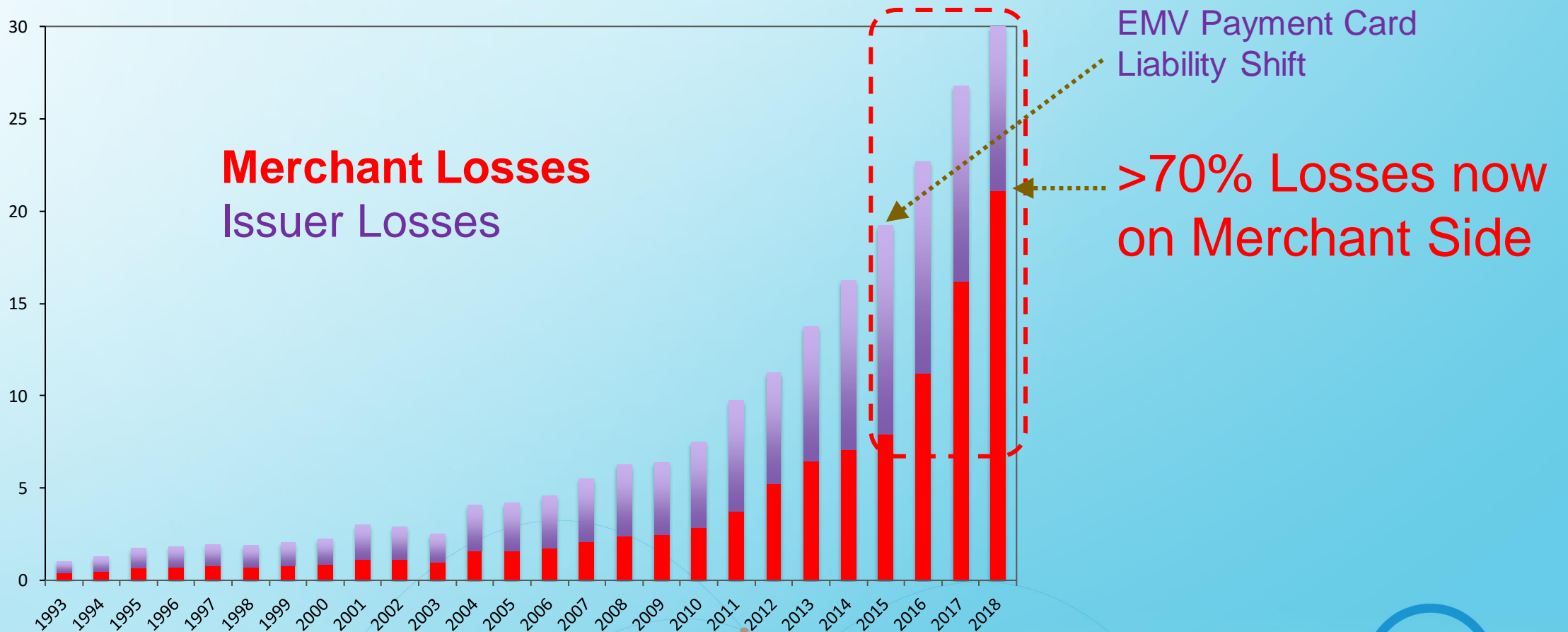
25%: lost money

16%: credit score affected

Source : CardWare



Merchants: The Fraud + Chargebacks + Product Losses

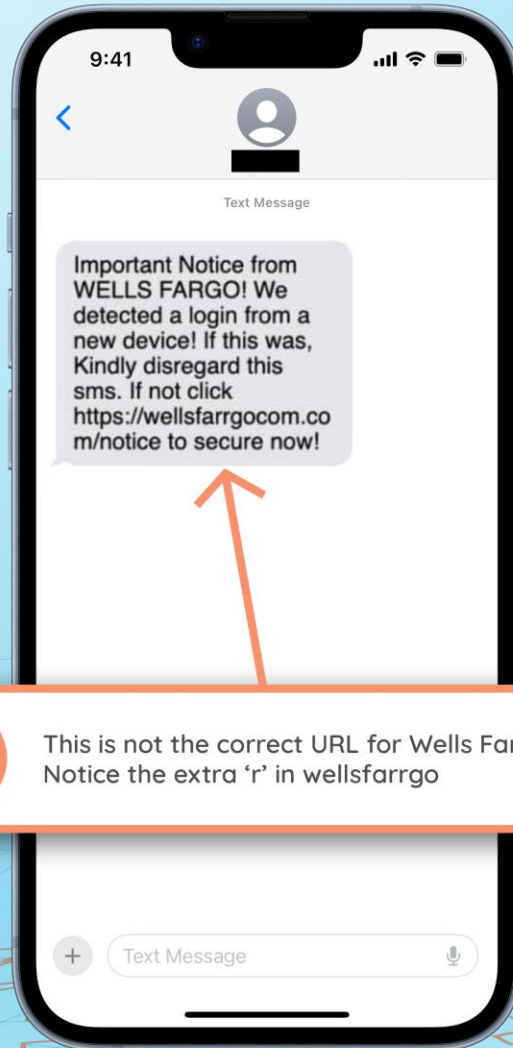



Source: Nilson Report + Aite Report

Needed: more intelligent solutions to **all** sides of this problem



One Fixed Number, for any Merchant ... What could possibly go wrong ?



 This is not the correct URL for Wells Fargo. Notice the extra 'r' in wellsfarggo



Online Experience: is more Friction better ?

The screenshot shows a checkout page for a 'T-shirt (Blue / M)' priced at '\$20.00'. A modal window titled 'Purchase Authentication' is overlaid, featuring a bank icon and the Mastercard ID Check logo. The modal text states: 'We've sent you a text message to your registered mobile number ending in 2329.' Below this is a 'Confirmation code' input field and a 'Confirm payment' button. A 'Resend code' link is positioned below the button. In the background, a 'Processing...' button with a loading spinner is visible. At the bottom left of the checkout page, it says 'Powered by stripe | Terms Privacy'.



How can we improve In-Store, CoTS Devices and Online payments UX ?

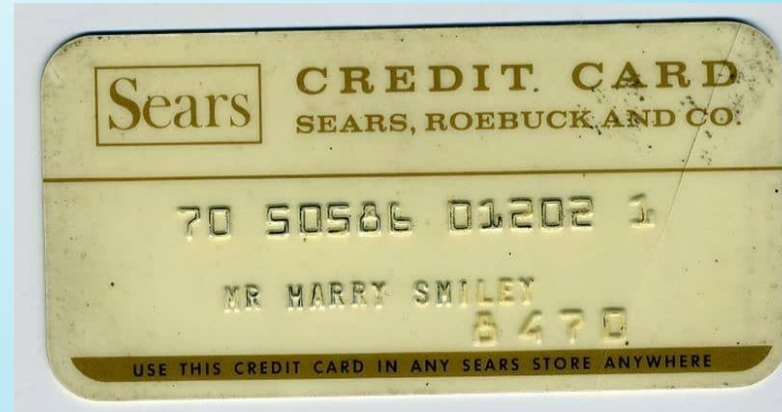
- (2015) Apple : “ApplePay doesn’t store the card... creates a one-time use number”
- (2016) Tim Cook : “the Credit Card is dead”
- (2019) Tim Cook : “Apple Card is the most significant change to Credit Card UX in 50yrs”
- (2020) Andreessen Horowitz : “every company will become a FinTech company”
- (2023) WSJ, anon Goldman Sachs source : “We should have never done this f—ing thing”
- (2024) Apple : “Beginning July 30th, 2025, the current device generated Apple Pay network tokens will no longer be applicable for Standing Instruction transactions”

Are Device makers, Banks, Networks, Merchants aligned towards solving all sides of this problem ?



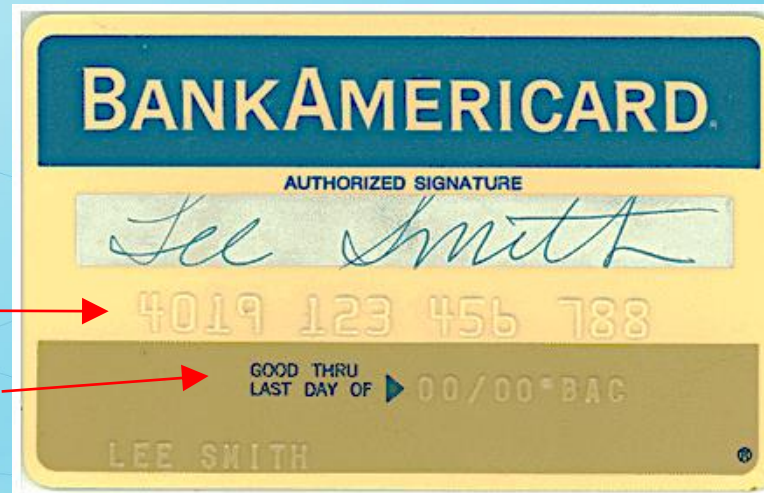
Genesis

Merchant Specific – can use at One Merchant



1950's

One **Fixed Number** – can use at ANY Merchant



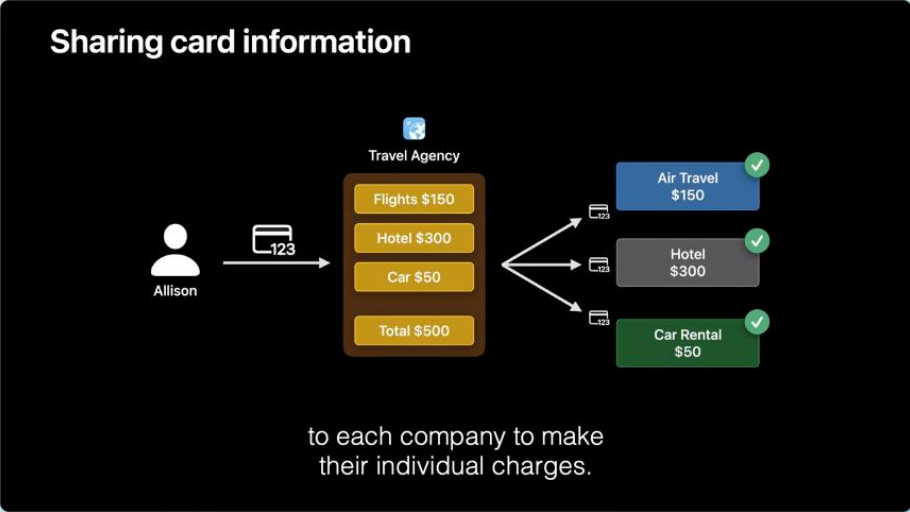
1960's

Primary Account Number (PAN) →

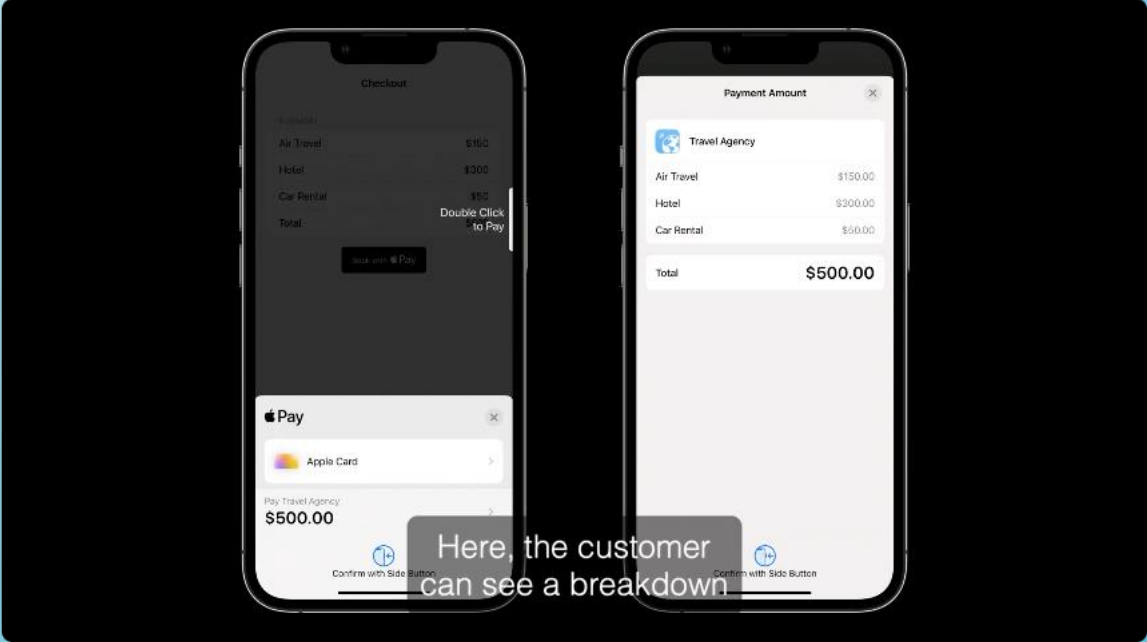
Expiration Date (EXP) →



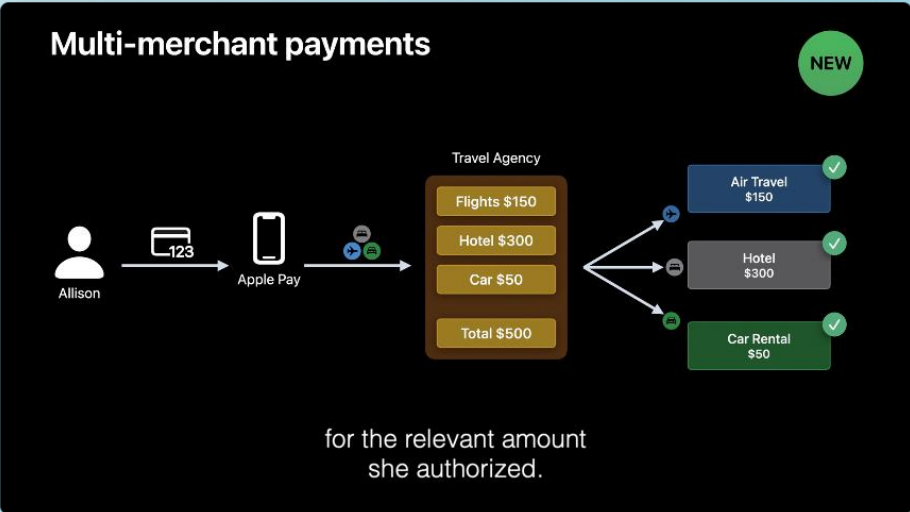
Traditional Payment Card



ApplePay MPAN UX



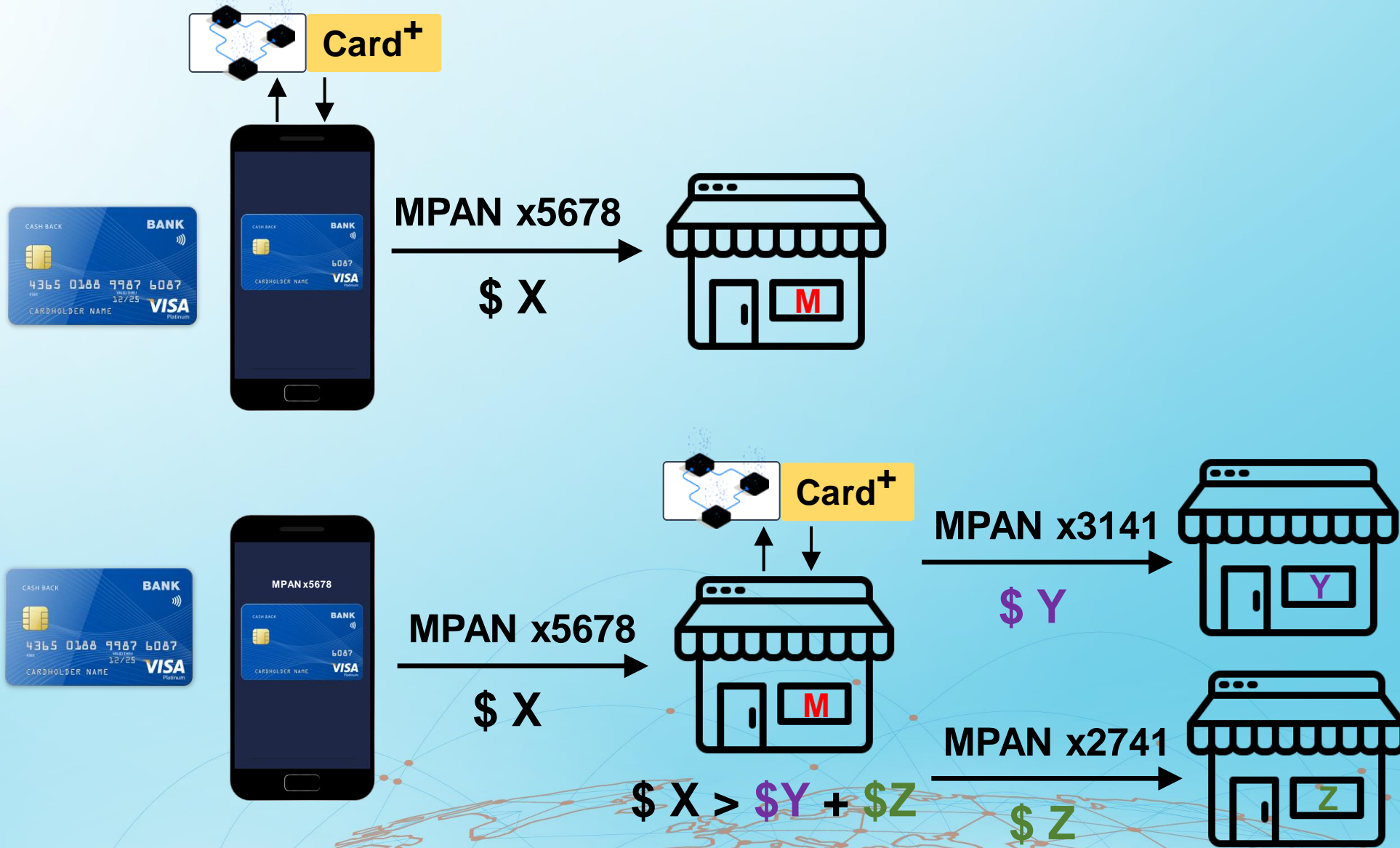
Apple Merchant Tokens (MPAN)



Source Apple WWDC'23 <https://developer.apple.com/videos/play/wwdc2022/10041/>

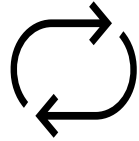


(Smart) Tokenization-as-a-Service



SmartTokenization* : 1 or more Limitations-on-Use

Number of Uses



Period of Time



Specific Amount



Spending Limit



Shipping Address



In-Store / Online



Specific Merchant(s)



Reader Facility(s)



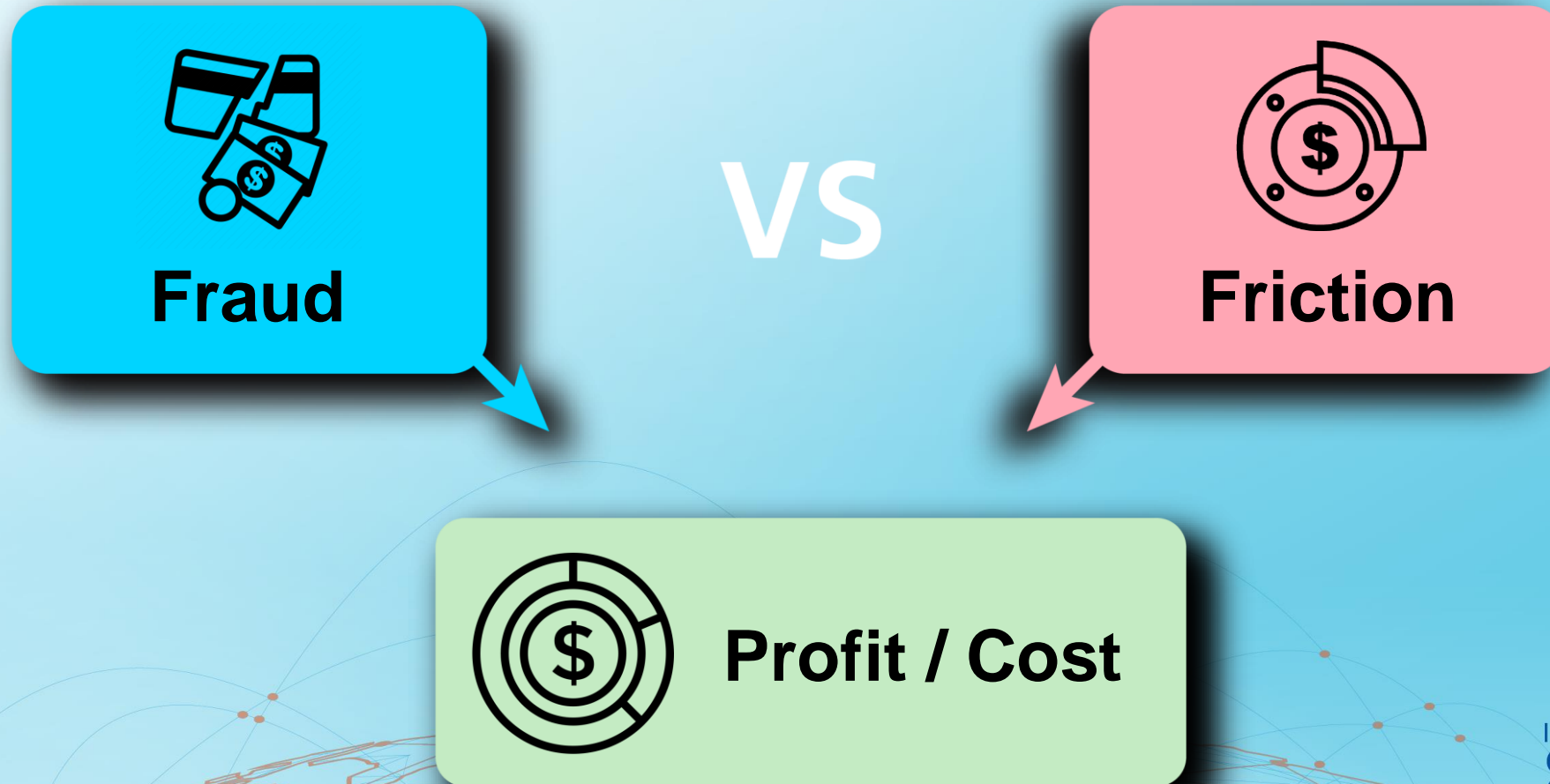
Specific Recipient(s)



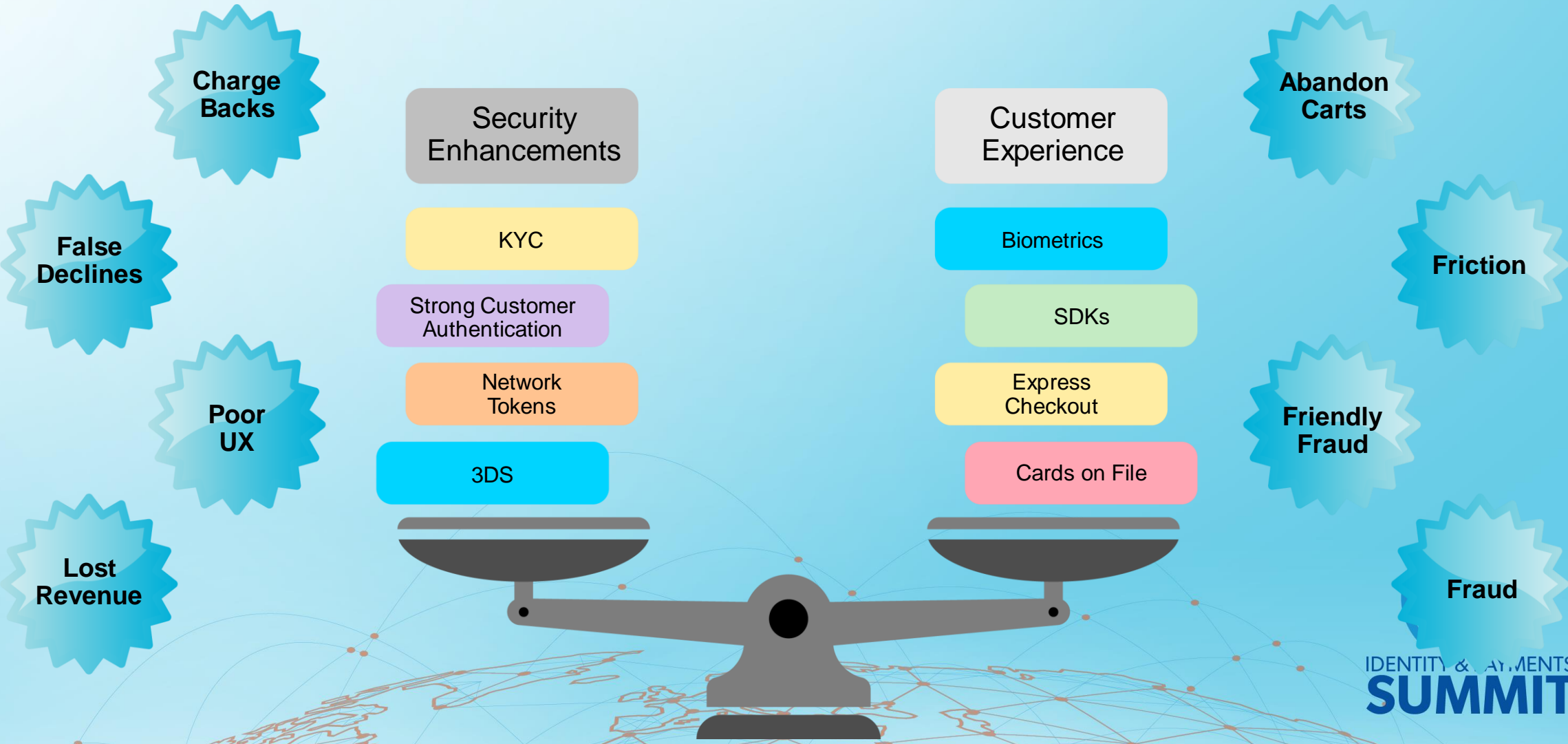
Purchase Location(s)



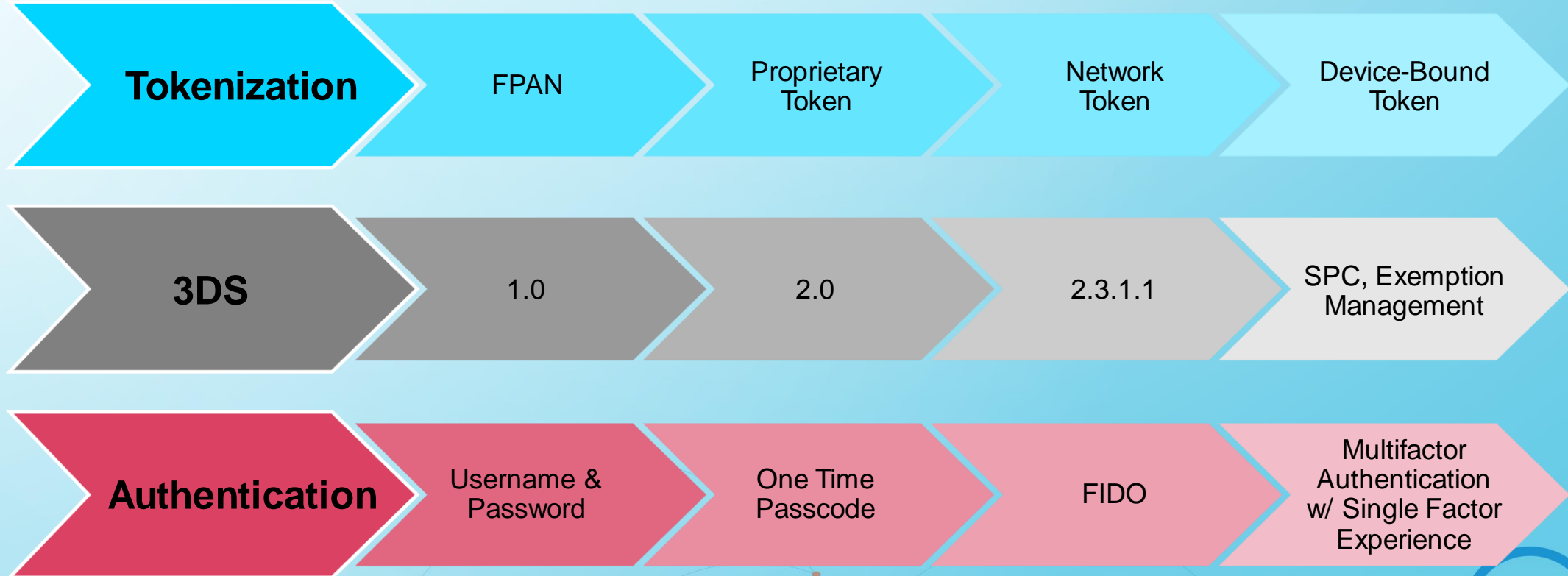
The eCommerce Dilemma



Finding Balance



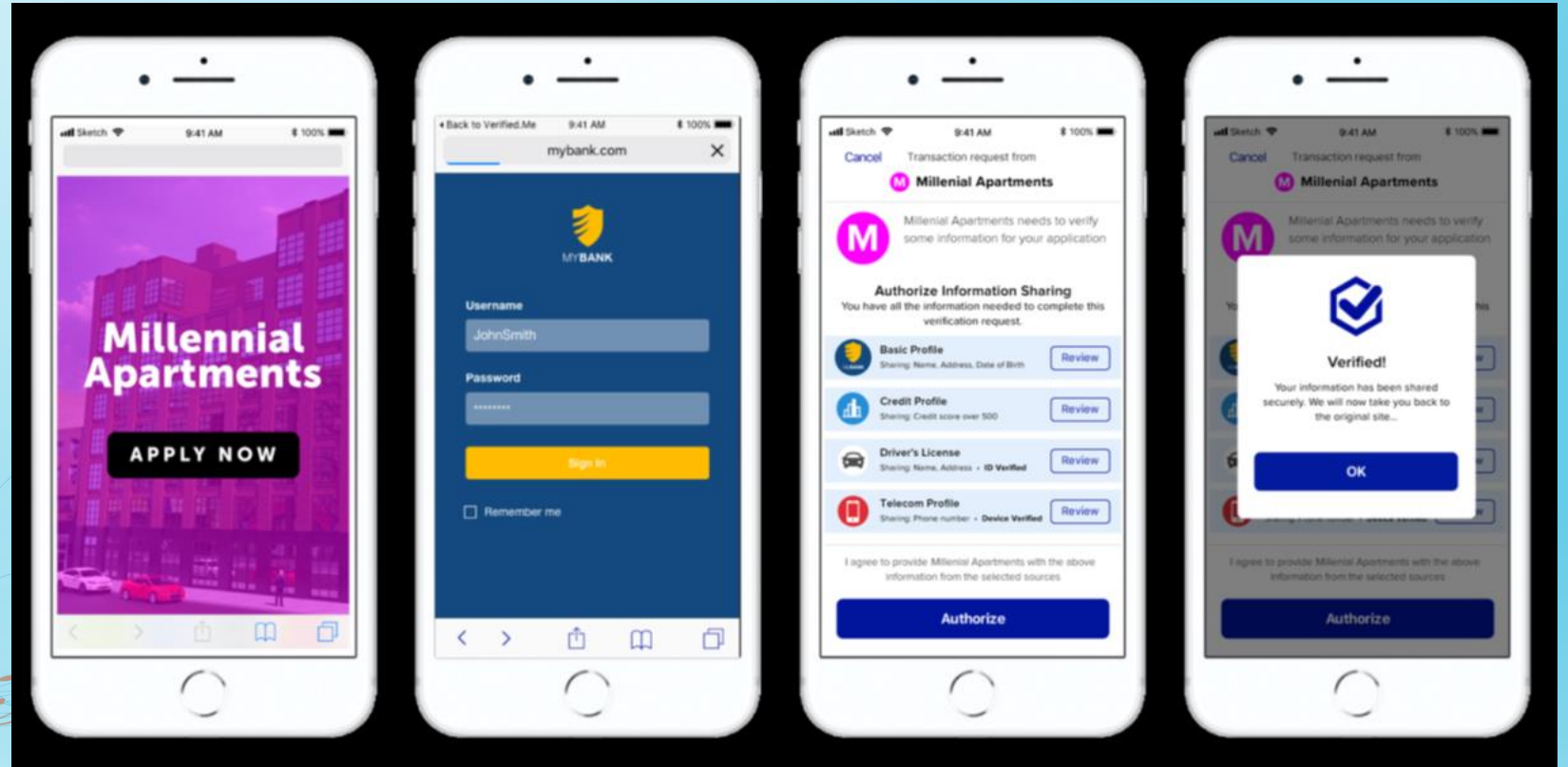
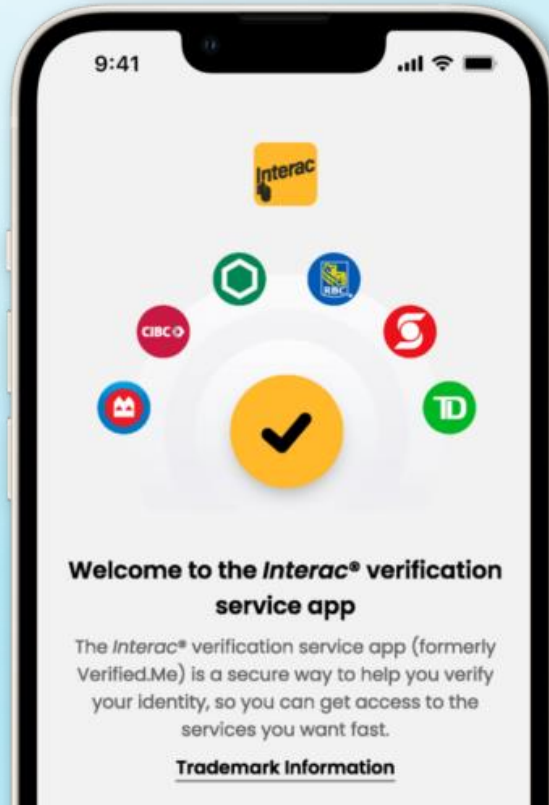
Evolution of eCommerce: What's Next?



Evolution of eCommerce:

Sharing of Verified Digital Attributes

Know Your Customer



Evolution of eCommerce:

Sharing of Verified Digital Attributes

Age Assurance

Age Estimation



Age Verification



Evolution of eCommerce:

Sharing of Verified Digital Attributes

Emerging Opportunities

I am a Real Person



Proof of Entitlement



Next Steps : Call to Action

- Turn Online/Phone CNP, into a CP transaction
 - SmartTokenization™ → Reduce phishing. Save transaction fees
- Eliminate fraud, skimming by eliminating **fixed** payment-info
 - SmartTokenization* → One-time limited-use : DPAN ... Location limited-use : LPAN ... Facility-limited-use : FPAN ... Recipient-limited : RPAN ... Merchant-limited : MPAN ... etc
- Increase Merchant Affiliation
 - Merchant-ID based → payment referral, merchant-rewards, and breach-resistant Card-on-File
- Increase engagement by reducing friction, eliminate false-declines
 - 3D-Secure → SmartTokenization™ inside **Your App. Your Web-site. Your Store**
- Get ready for the oncoming Digital-\$ (CBDC, FedNow)
 - Better for business (replacing Paper Checks, VenMo/PayPal fees ... etc)

Turn this into an **better** experience **everywhere**

