Ο ρόλος της ταυτοποίησης σε ένα ψηφιακό κόσμο, δυνατότητες και προκλήσεις

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19 Ιουλίου 2019

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Η ψηφιακή ταυτοποίηση βρίσκεται παντού

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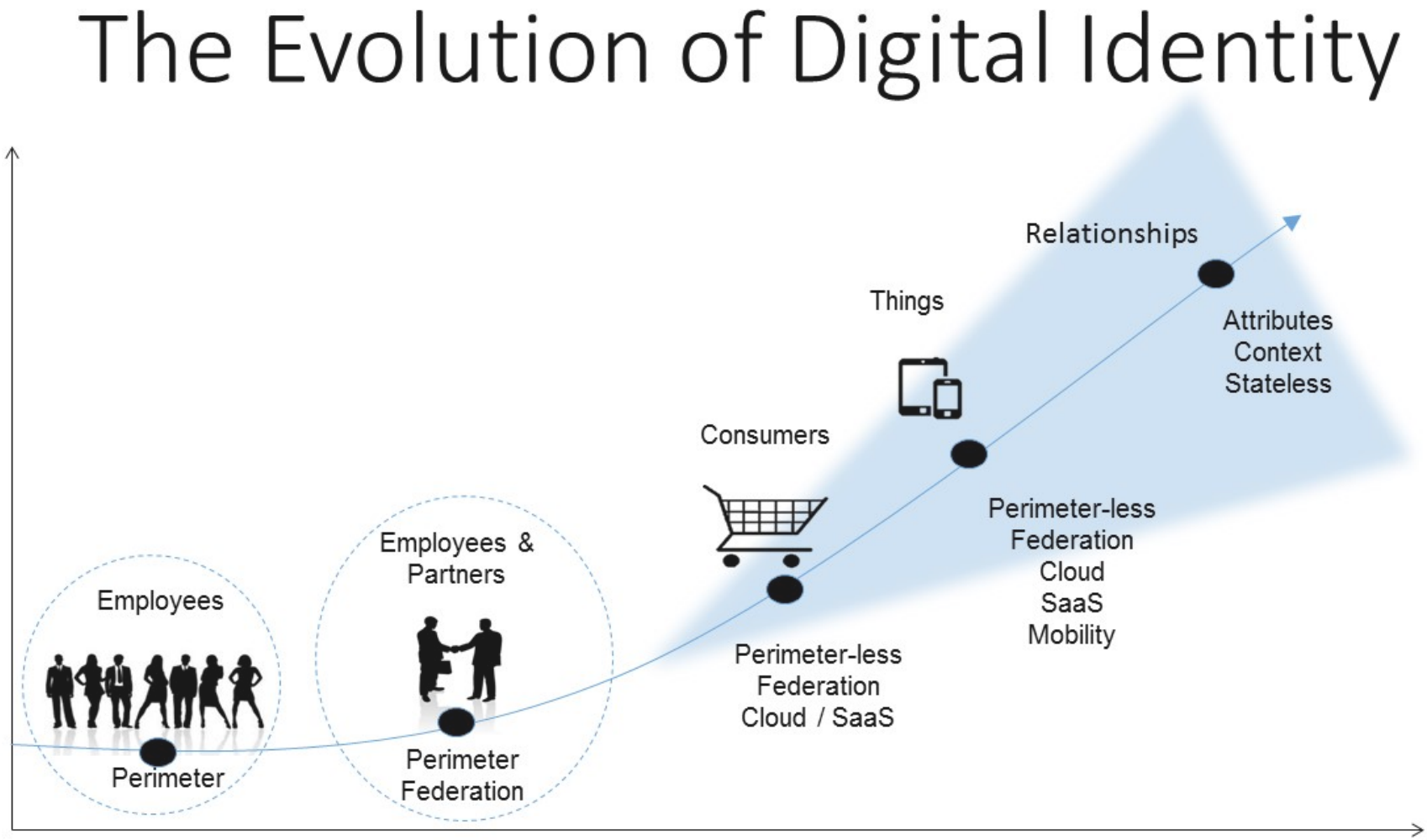
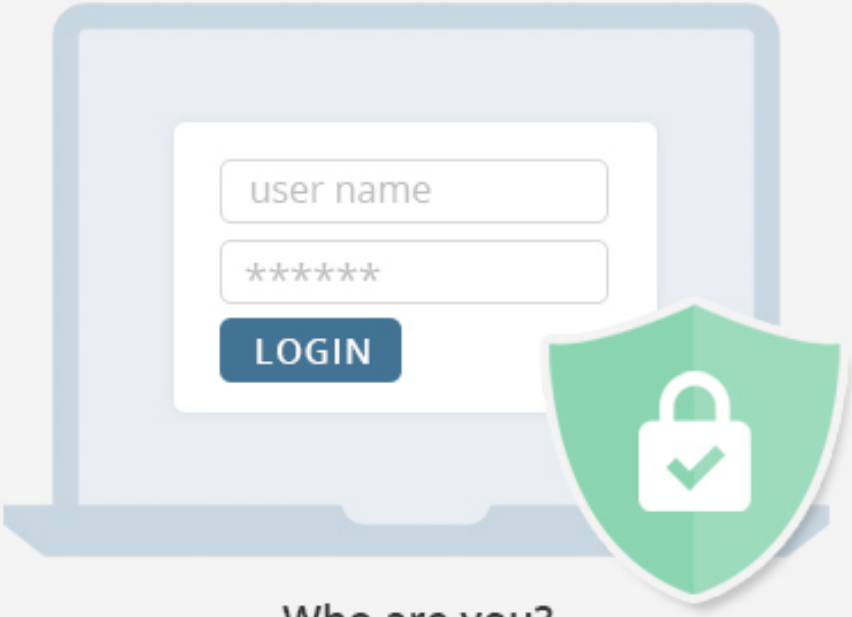
Η εξέλιξη της ψηφιακής ταυτοποίησης

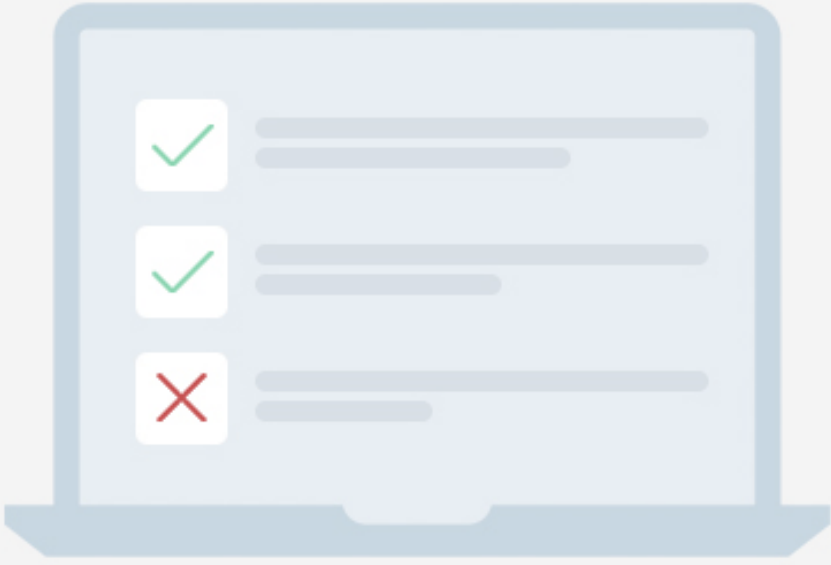


Τα δομικά στοιχεία μιας ψηφιακής ταυτότητας



Who are you?

Validate a system is accessing by the right person



Are you allowed to do that?

Check users' permissions to access data

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What is authentication

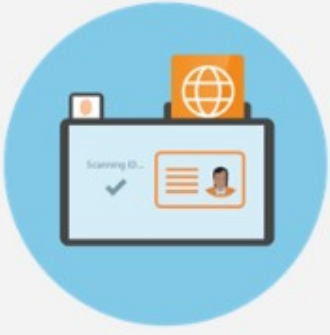
Στοιχεία ταυτοποίησης

Digital Identity

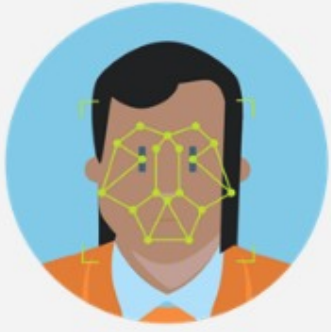
Declared Identity

Trusted Digital Identity

Declared Identity



Verified Identity Document



Verified Biometrics

Third Party Checks

Identity Spectrum

by @identitywoman

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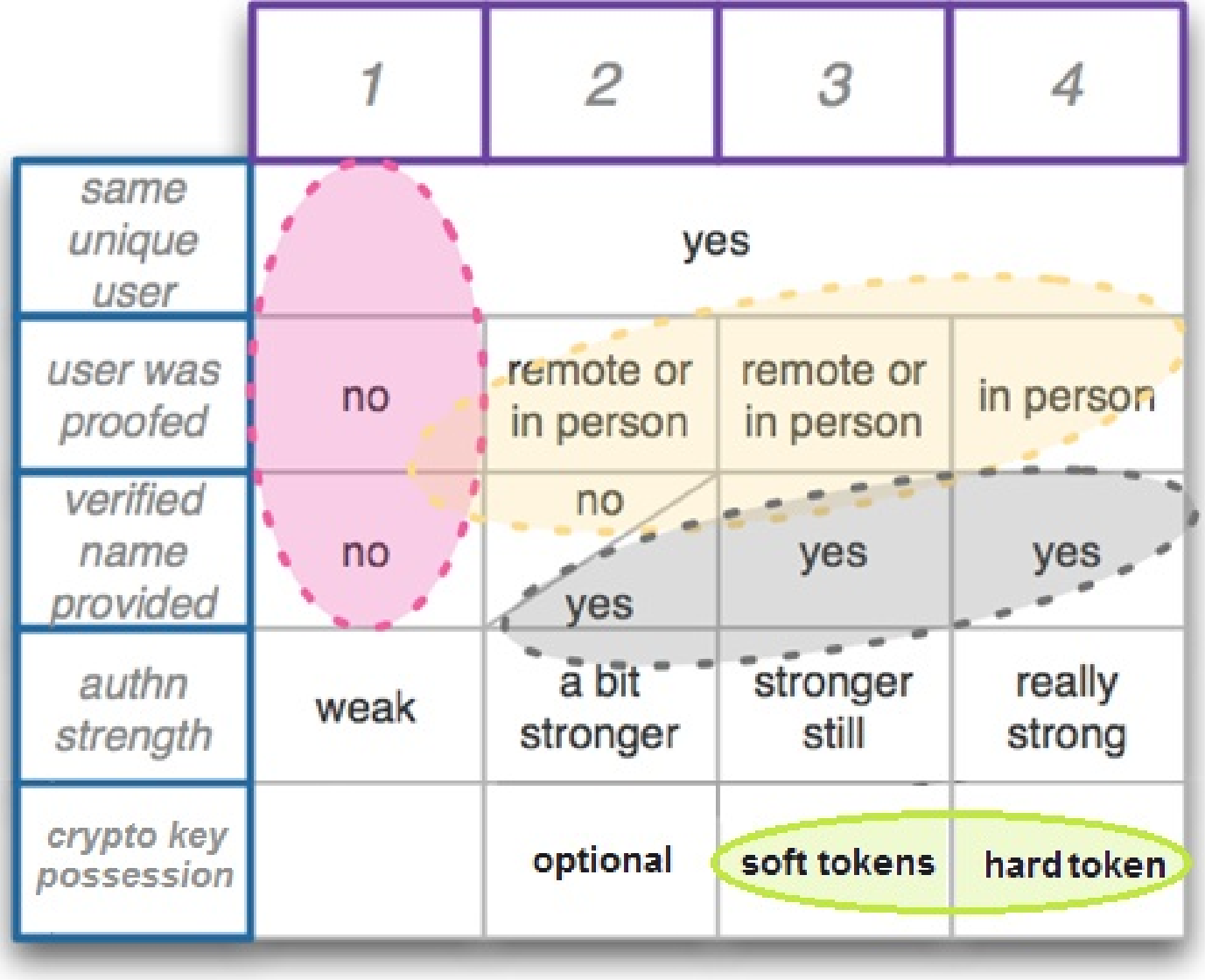

simple cross-session correlation

identity proofability

real-world identity mapping

cryptographic token strength

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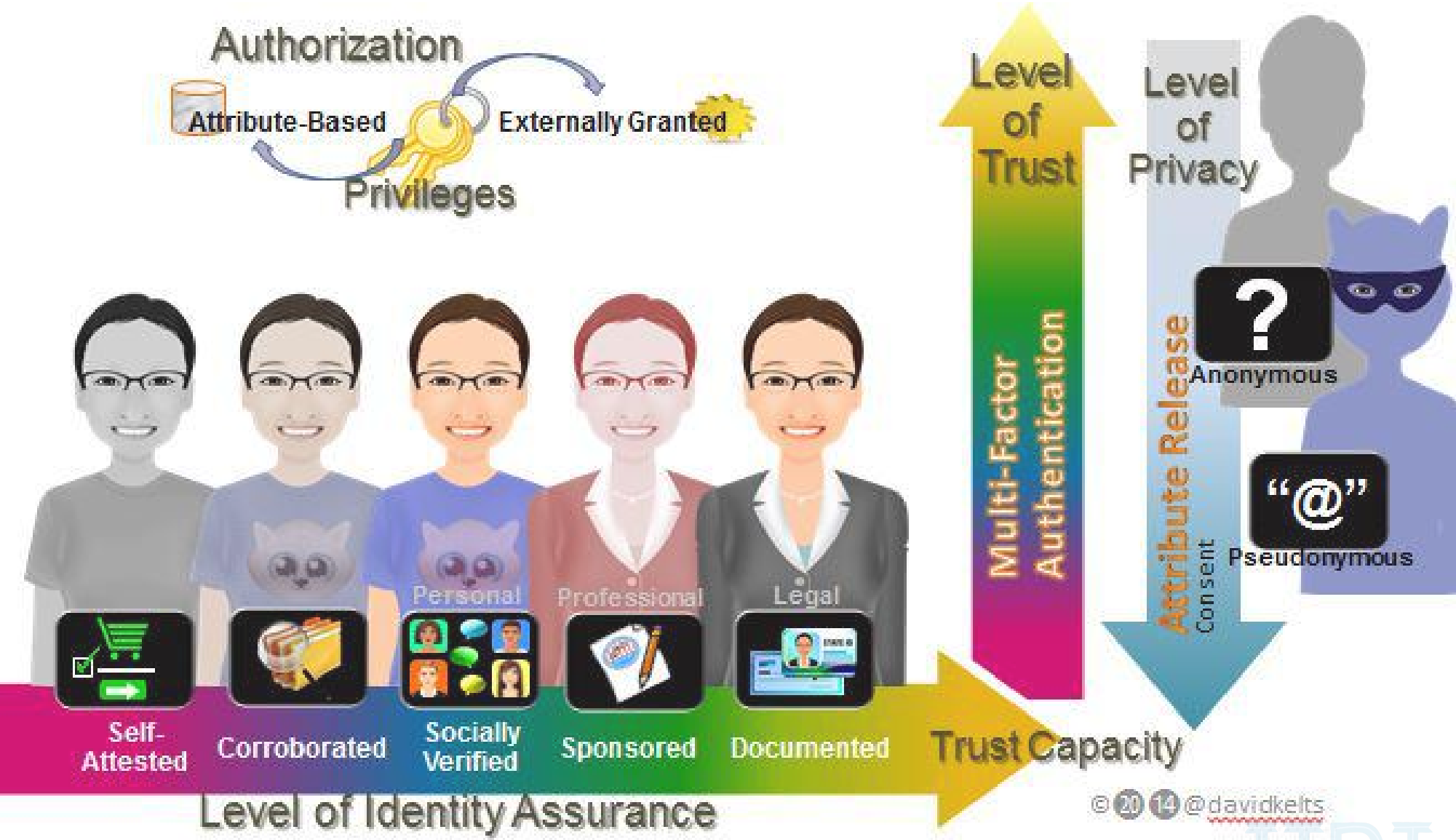
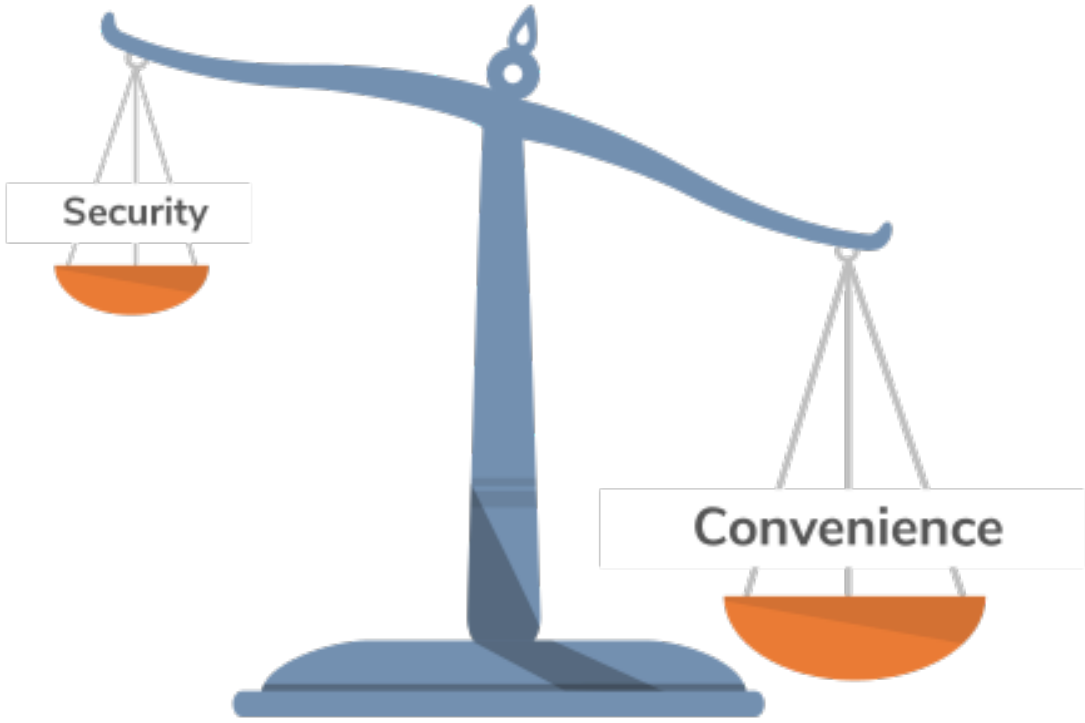

Authorization
Attribute-Based
Externally Granted
Privileges
Level of Trust
Level of Privacy
Multi-Factor Authentication
Attribute Release
Consent
?
Anonymous
"@"
Pseudonymous
Personal
Professional
Legal
Self-Attested
Corroborated
Socially Verified
Sponsored
Documented
Trust Capacity
Level of Identity Assurance
© 2014 @davidkelts

Ευχρηστία vs Ασφάλεια



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Adaptive authentication

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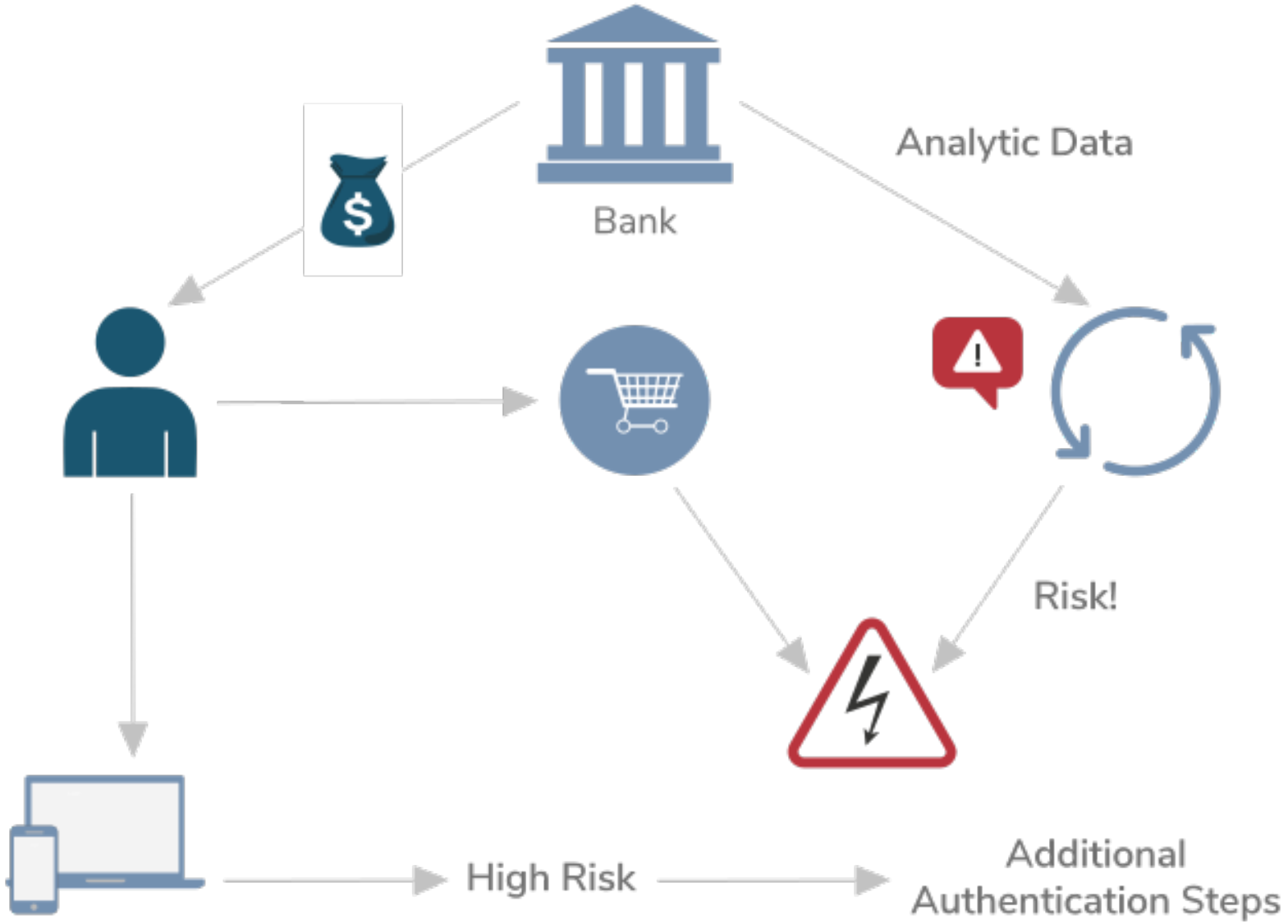
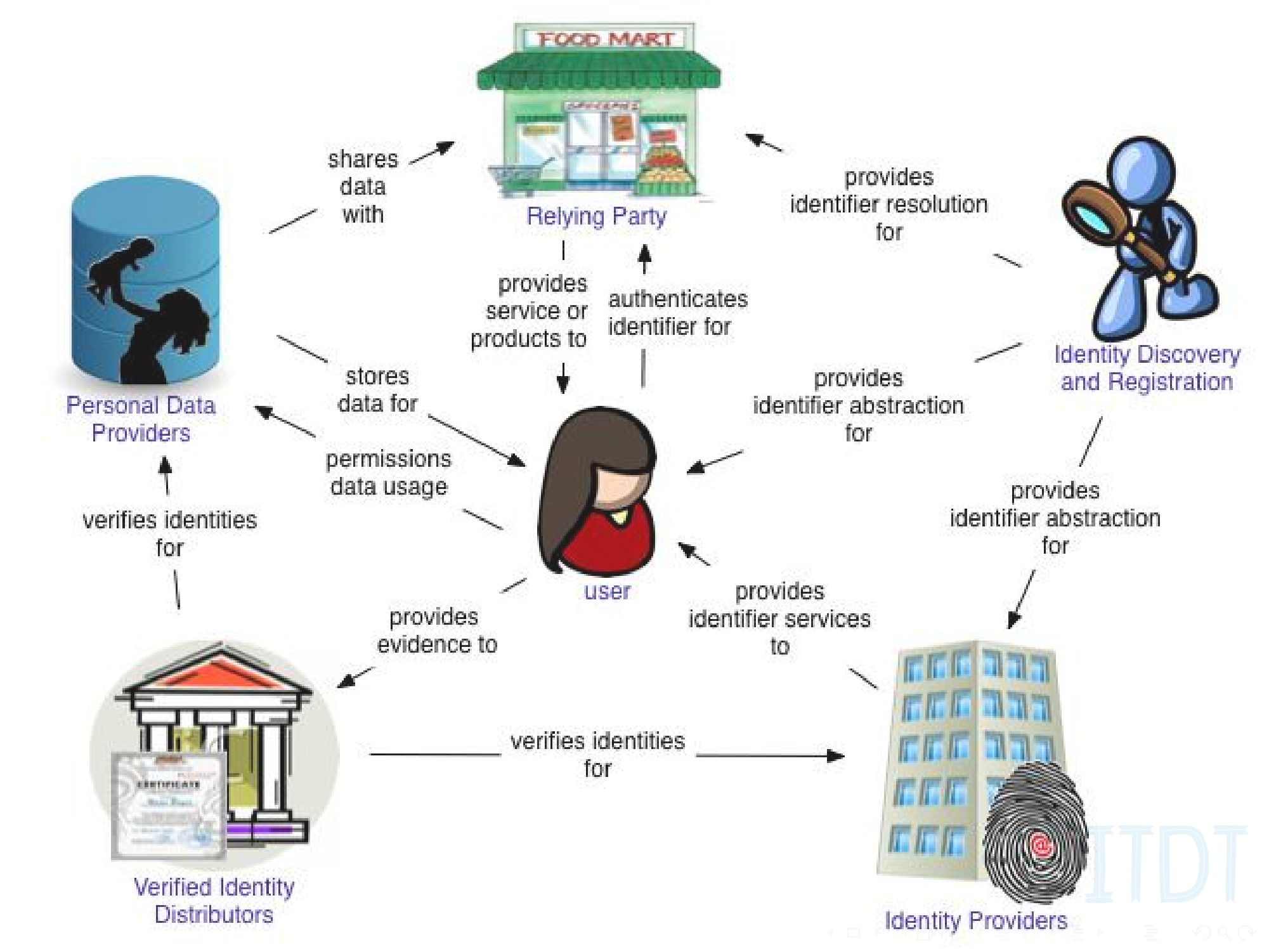
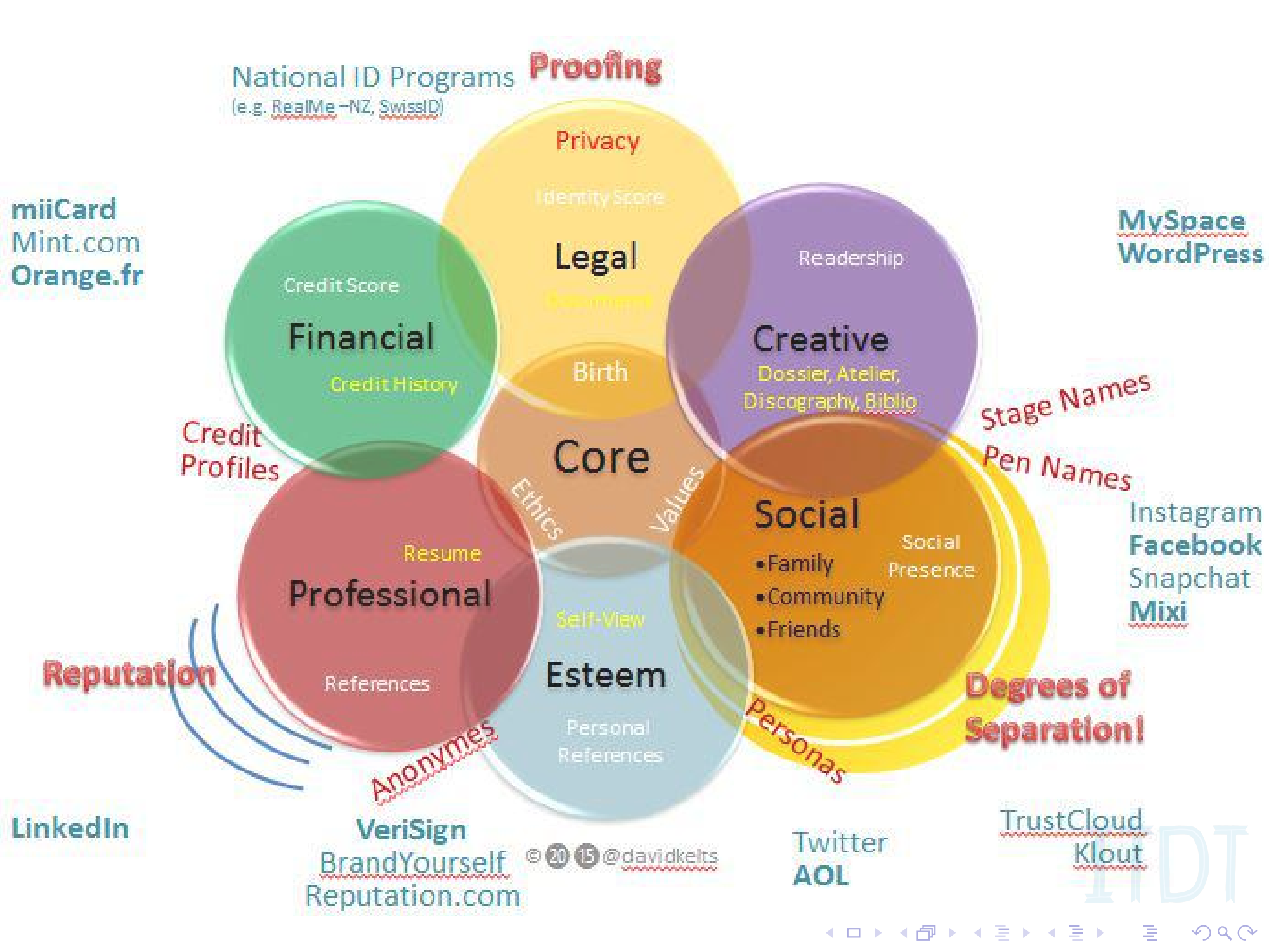
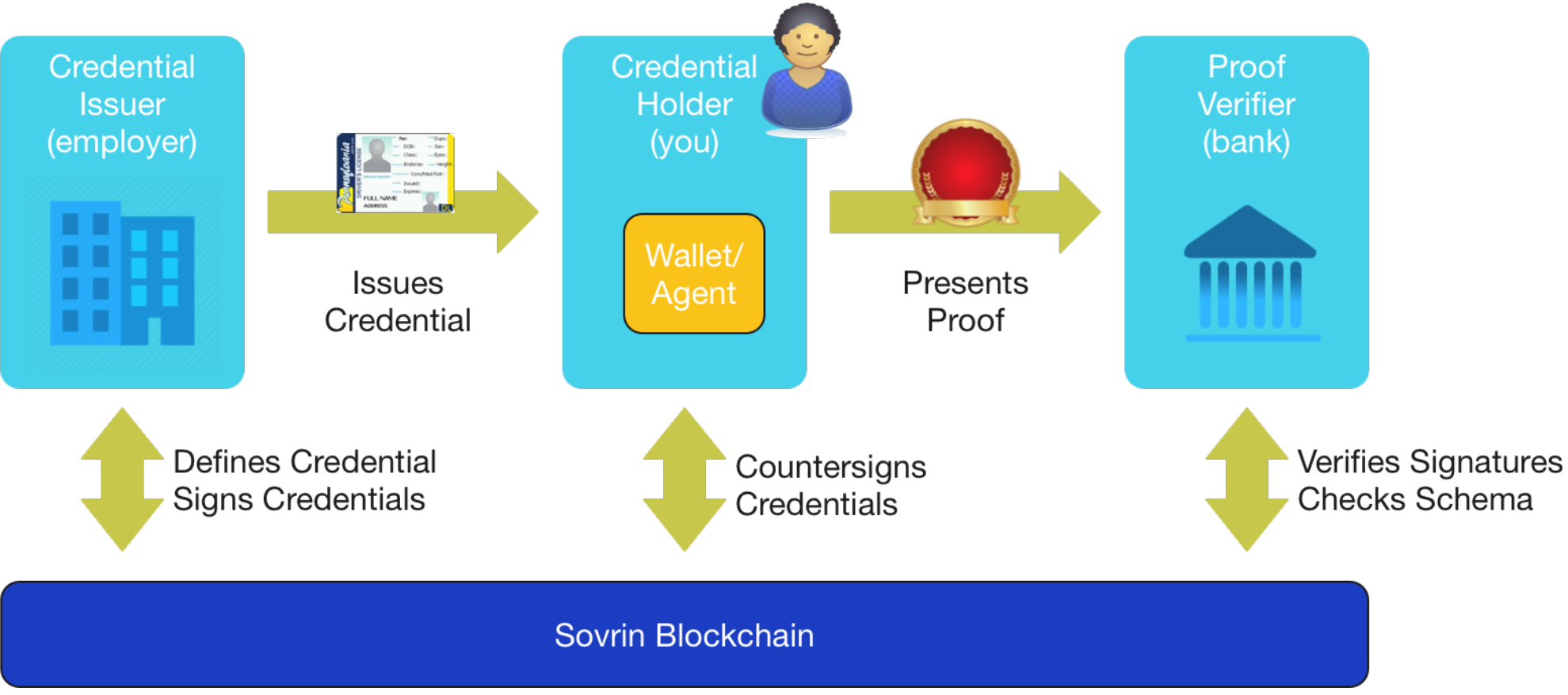
Adaptive authentication




FOOD MART
Relying Party
shares data with
provides identifier resolution for
Identity Discovery and Registration
provides service or products to
authenticates identifier for
Personal Data Providers
stores data for
permissions data usage
provides identifier abstraction for
verifies identities for
user
provides identifier abstraction for
provides evidence to
provides identifier services to
verifies identities for
Verified Identity Distributors
Identity Providers


National ID Programs
(e.g. RealMe –NZ, SwissID)
Proofing
Privacy
Identity Score
Legal
Credit Score
Financial
Credit History
Readership
Creative
Dossier, Atelier, Discography, Biblio
Birth
Core
Ethics
Values
Resume
Professional
References
Social
•Family
•Community
•Friends
Social Presence
Self-View
Esteem
Personal References
miiCard
Mint.com
Orange.fr
MySpace
WordPress
Credit Profiles
Stage Names
Pen Names
Instagram
Facebook
Snapchat
Mixi
Reputation
Degrees of Separation!
Anonymes
Personas
LinkedIn
VeriSign
BrandYourself
Reputation.com
© 2015 @davidkelts
Twitter
AOL
TrustCloud
Klout

Blockchain


Credential Issuer (employer)
Issues Credential
Credential Holder (you)
Wallet/ Agent
Presents Proof
Proof Verifier (bank)
Defines Credential
Signs Credentials
Countersigns Credentials
Verifies Signatures
Checks Schema
Sovrin Blockchain

Που δημιουργούμε ψηφιακές ταυτότητες

Who governs digital identity?

Several major industries are adopting, investing in universal automated ID

- Financial services, 28%
- Sharing economy, 16%
- Government, 15%
- Other, 13%
- Retail, 9%
- Telco, 8%
- Media, 7%

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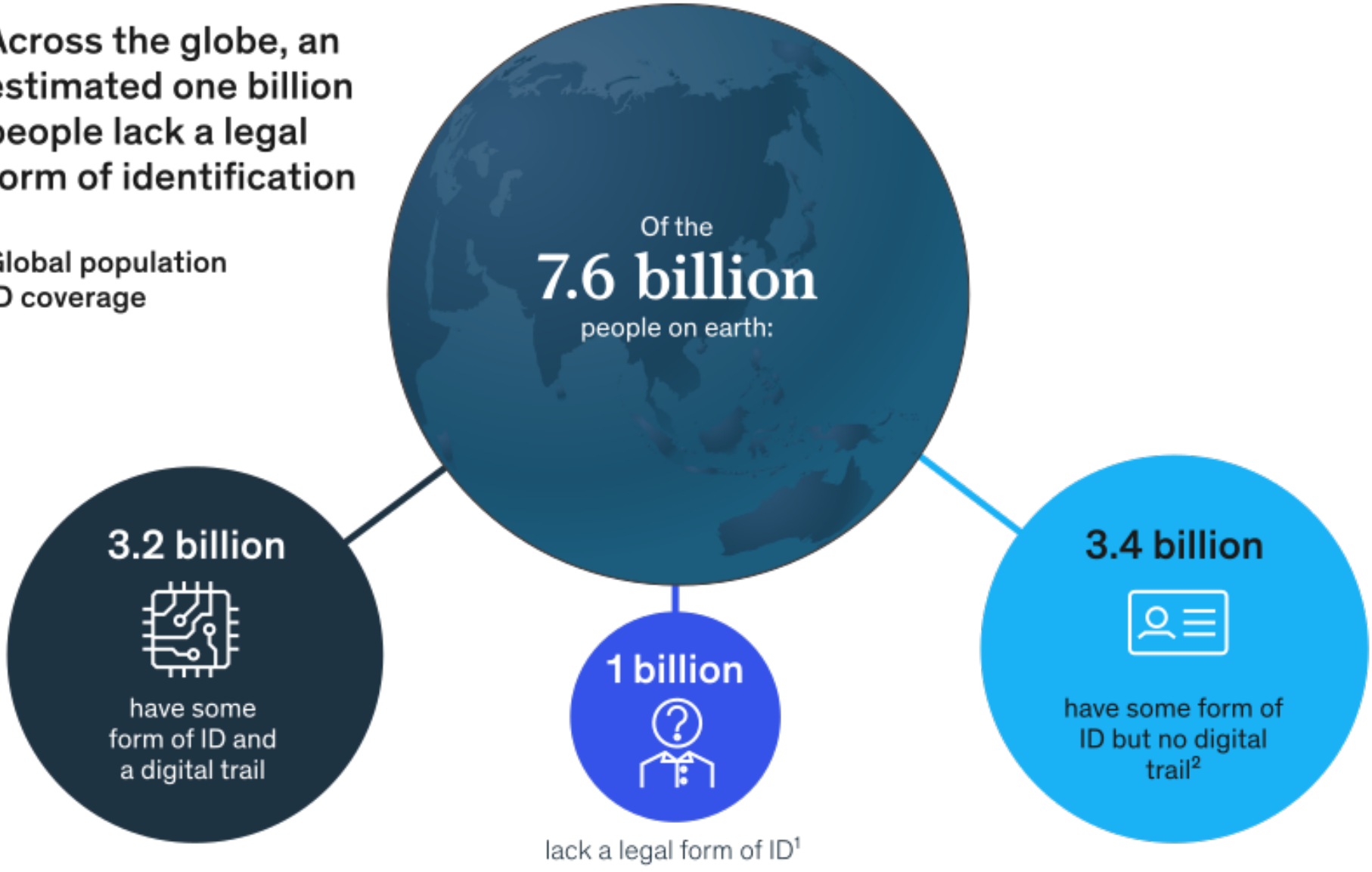
Across the globe, an estimated one billion people lack a legal form of identification

Global population ID coverage



[1]Legal ID coverage figures are based upon World Bank ID4D reporting of the latest registration levels for national ID, with voter registration used as a proxy where national ID does not exist or data are not available.
[2]Calculated as population with active social-media use, as reported in the *Global Digital Report 2018* from We Are Social. These social-media users are presumed to be within the population that has some form of legally recognized ID.

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Primed for growth
Country population, in millions
Those currently online
125
74
Mexico
Brazil
207
126
Egypt
97
40
Pakistan
205
32
Bangladesh
158
29
96
45
Vietnam
Philippines
104
58
68
33
India
Thailand
191
49
Nigeria
1,300
458
261
143
Indonesia
Note: Internet penetration based on midyear 2017 estimates
Sources: World Bank, International Telecommunication Union for Internet users in all countries except India and Indonesia, where local sources were used

Source: asquared / as of February 2018

ASQUARED

Public Solutions

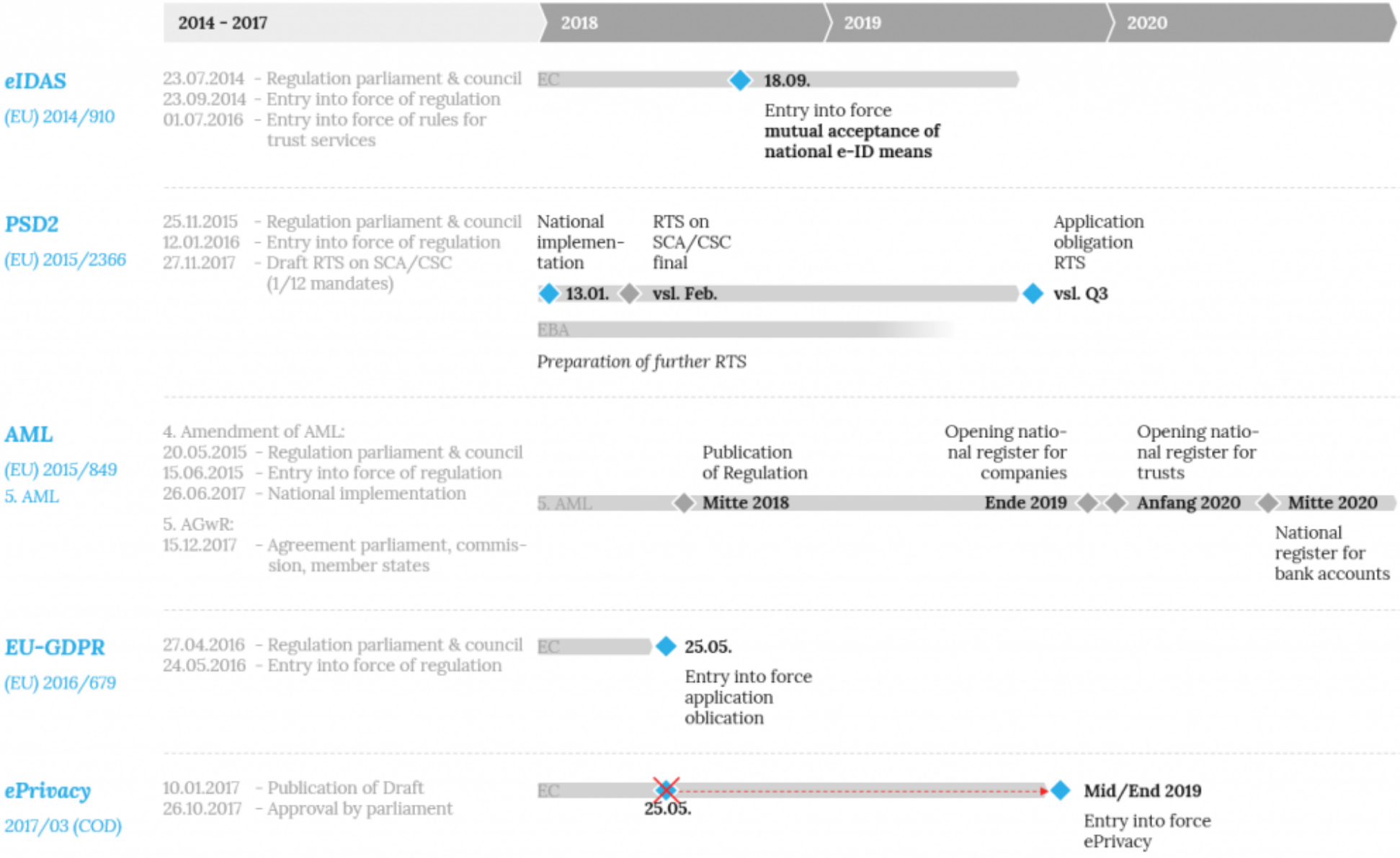
ameli.fr
AusweisApp
.beID
DigiD
cl@ve
eGov authent. Platform (Schweden)
e-Građani
FINeID
REPUBLIKA SLOVENIJA eUPRAVA
France Connect
GOV.UK VERIFY
ICEKEY E-CERTIFICATE
IDEA
ID-porten
Impots .gouv
MinID
MyGov.id
NEM ID
pl.ID
slovensko.sk
SMART-ID
spid
uport

Private Solutions

AUÐKENNI
ævatar
authentiq
BankID
bankID
buypass
CAS
CitizenKey®
COMMFIDES
digi.me
eParaksts
eid
giropay ID
IDEMIA
identity™ Giro
idento.one
HELIX
itsme
JOLOCOM
Login-Allianz
LUXTRUST
MIA
Mobiilivarmenne
mojeID
POSTID
SECURE KEY
SwissID
verimi
YES.

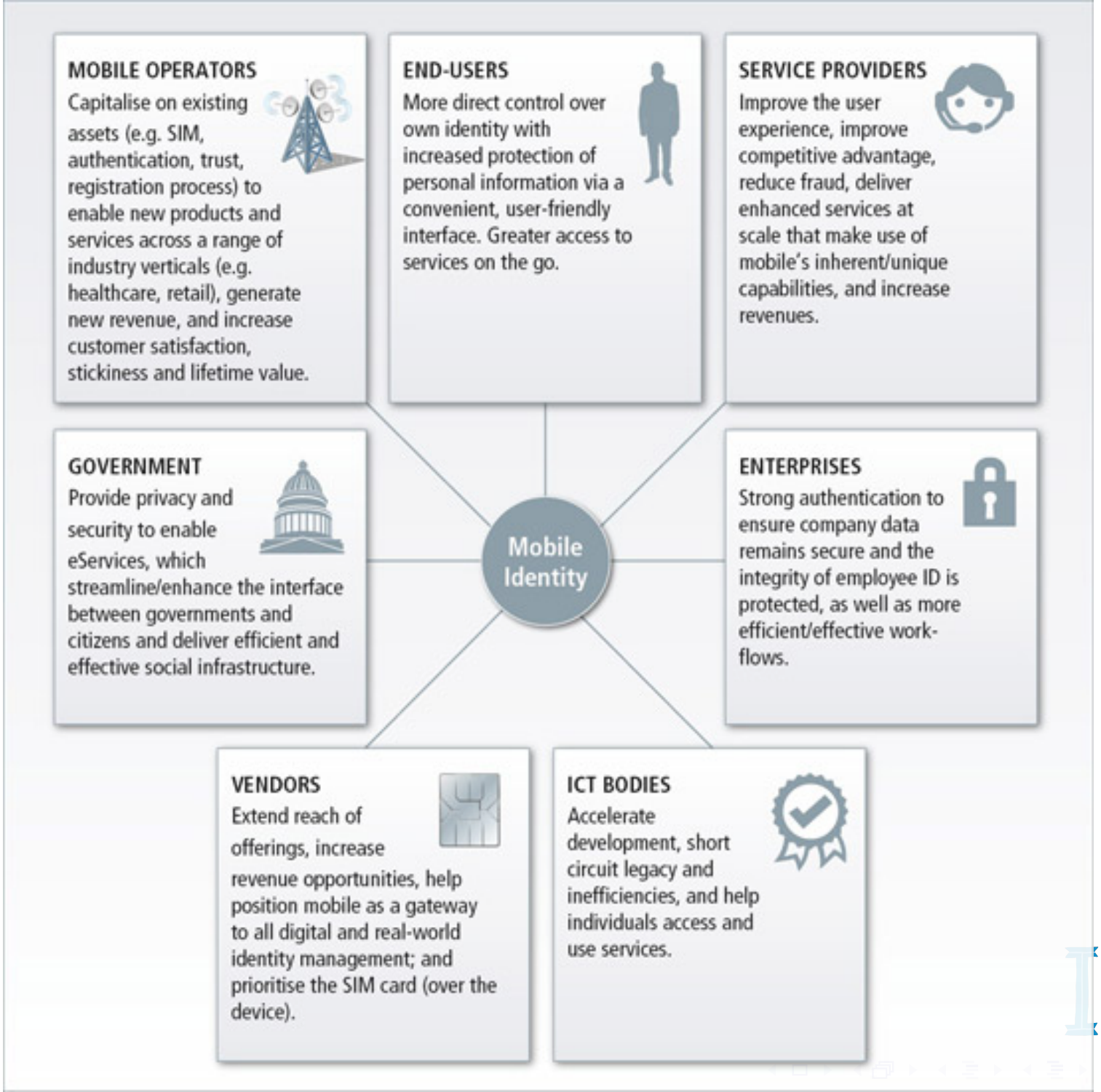
Public-Private Partnerships

EHerkenning
idensys
TUPAS



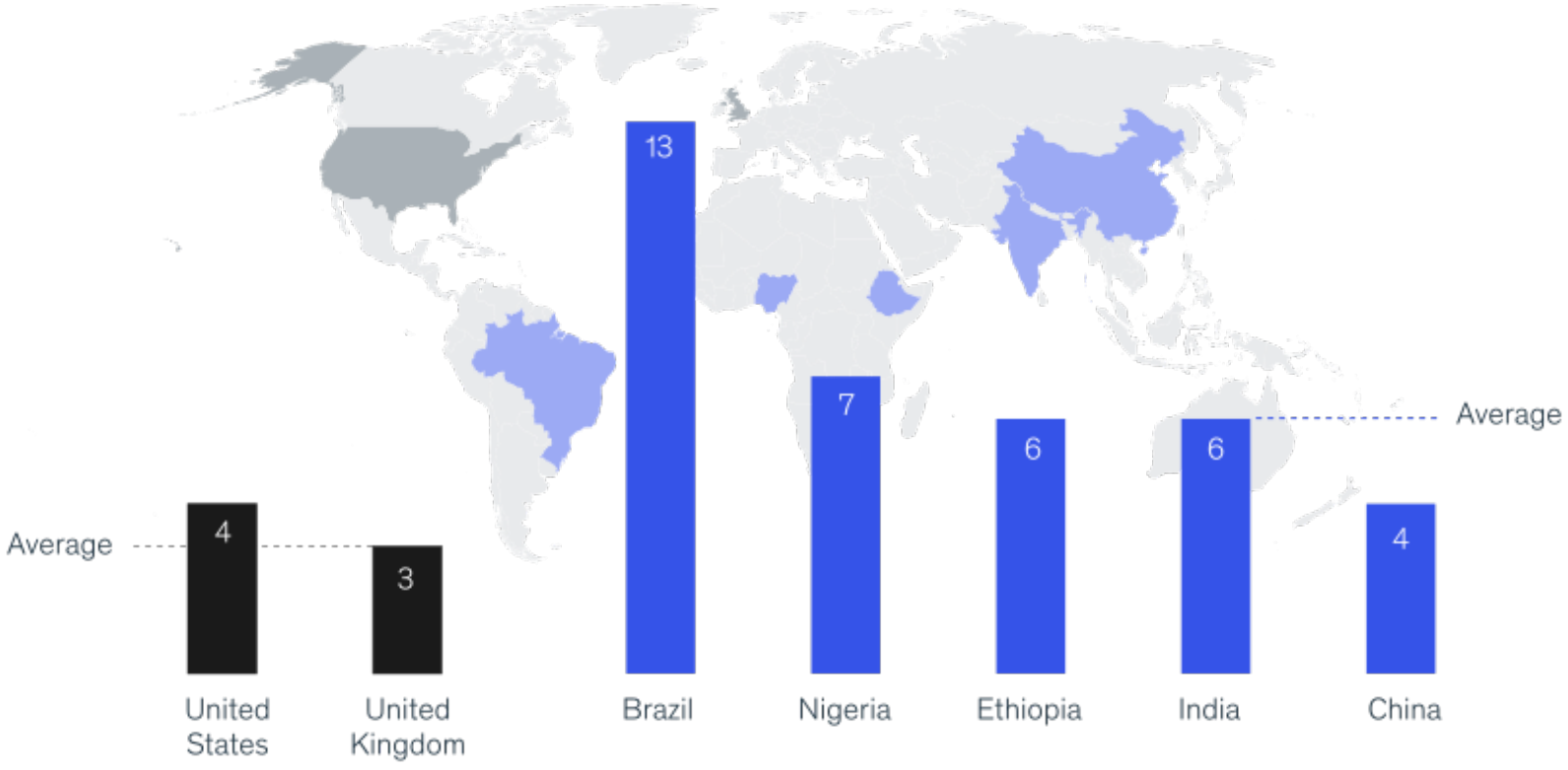
Source: asquared / As of January 2018

ASQUARED


MOBILE OPERATORS
Capitalise on existing assets (e.g. SIM, authentication, trust, registration process) to enable new products and services across a range of industry verticals (e.g. healthcare, retail), generate new revenue, and increase customer satisfaction, stickiness and lifetime value.
END-USERS
More direct control over own identity with increased protection of personal information via a convenient, user-friendly interface. Greater access to services on the go.
SERVICE PROVIDERS
Improve the user experience, improve competitive advantage, reduce fraud, deliver enhanced services at scale that make use of mobile's inherent/unique capabilities, and increase revenues.
GOVERNMENT
Provide privacy and security to enable eServices, which streamline/enhance the interface between governments and citizens and deliver efficient and effective social infrastructure.
Mobile Identity
ENTERPRISES
Strong authentication to ensure company data remains secure and the integrity of employee ID is protected, as well as more efficient/effective work-flows.
VENDORS
Extend reach of offerings, increase revenue opportunities, help position mobile as a gateway to all digital and real-world identity management; and prioritise the SIM card (over the device).
ICT BODIES
Accelerate development, short circuit legacy and inefficiencies, and help individuals access and use services.

Across our focus countries, digital ID could unlock the economic value equivalent of 3–13% of GDP in 2030.

Increase in economic value from high levels of digital ID adoption in each country by 2030, % of GDP



65% of potential value could accrue to individuals in emerging economies in our focus group, making it a powerful tool for inclusive growth.

Note: Average is calculated over the range of 23 mature and emerging economies in our analysis. Value estimates assume the digital ID program enables multiple high-value use cases, attains high levels of adoption and usage, and has the attributes required of good ID, including that it is established with individual consent, protects user privacy, and ensures control over personal data.

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Digital ID can unlock value by promoting inclusion, formalization, and digitization. For example:

45%

of women aged 15+ in low-income countries lack ID while only 30% of men do

1.7 billion

people globally could gain access to financial services

90%

of customer onboarding costs could potentially be reduced

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PREDICTING PERSONAL ATTRIBUTES FROM FACEBOOK LIKES

PREDICTED ATTRIBUTE	ACCURACY
Ethnicity	95 %
Gender	93 %
Sexual Orientation (male)	88 %
Political Views	85 %
Religion	82 %
Sexual Orientation (female)	75 %
Nicotine Usage	73 %
Alcohol Usage	70 %
Relationship	67 %
Drug Usage	65 %
Parents Divorced	60 %

Predicting personal attributes from Facebook Likes. Source: Kosinski et al 2013.

PREDICTING CHARACTER TRAITS FROM PHONE CALL RECORDS AND APP USAGE

Source: Chittaranjan et al, 2011

	EMOTIONAL STABILITY	EXTRA-VERSION	OPENNESS	CONSCIEN-TIOUSNESS	AGREE-ABLENESS
ACCURACY	72%	76%	69%	75%	70%

RECOGNIZING EMOTIONS FROM THE RHYTHM OF KEYBOARD TYPING PATTERNS

Source: Epp et al, 2011

	CONFIDENCE	HESITANCE	NERVOUS-NESS	RELAXA-TION	SADNESS	TIRED
ACCURACY	83%	82%	83%	77%	88%	84%

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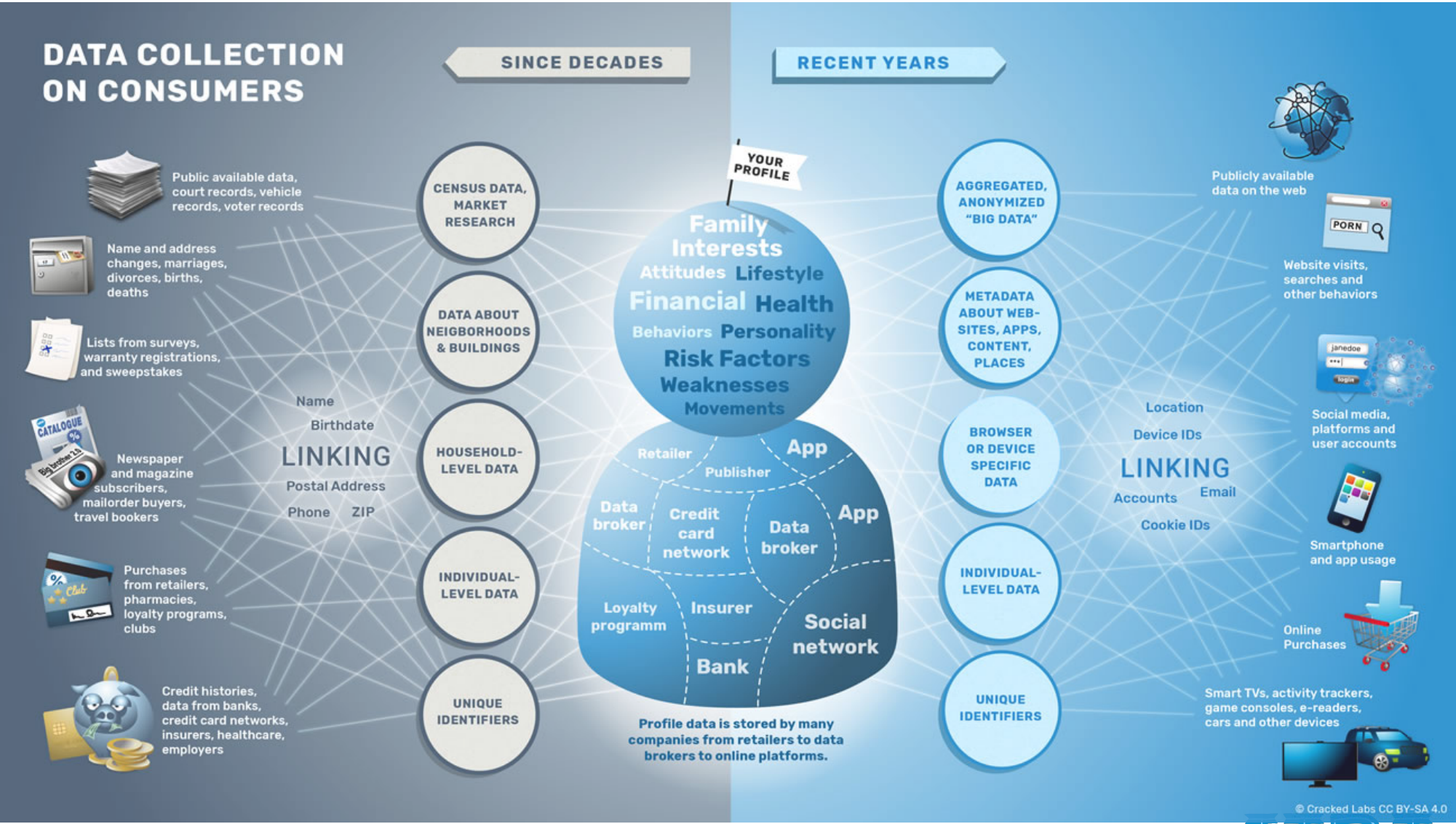
DATA COLLECTION ON CONSUMERS
SINCE DECADES
RECENT YEARS
Public available data, court records, vehicle records, voter records
Name and address changes, marriages, divorces, births, deaths
Lists from surveys, warranty registrations, and sweepstakes
Newspaper and magazine subscribers, mailorder buyers, travel bookers
Purchases from retailers, pharmacies, loyalty programs, clubs
Credit histories, data from banks, credit card networks, insurers, healthcare, employers
Name
Birthdate
LINKING
Postal Address
Phone ZIP
CENSUS DATA, MARKET RESEARCH
DATA ABOUT NEIGBORHOODS & BUILDINGS
HOUSEHOLD-LEVEL DATA
INDIVIDUAL-LEVEL DATA
UNIQUE IDENTIFIERS
YOUR PROFILE
Family
Interests
Attitudes Lifestyle
Financial Health
Behaviors Personality
Risk Factors
Weaknesses
Movements
Retailer
App
Publisher
Data broker
Credit card network
Data broker
App
Loyalty programm
Insurer
Social network
Bank
Profile data is stored by many companies from retailers to data brokers to online platforms.
AGGREGATED, ANONYMIZED "BIG DATA"
METADATA ABOUT WEB-SITES, APPS, CONTENT, PLACES
BROWSER OR DEVICE SPECIFIC DATA
INDIVIDUAL-LEVEL DATA
UNIQUE IDENTIFIERS
Location
Device IDs
LINKING
Accounts
Email
Cookie IDs
Publicly available data on the web
PORN
Website visits, searches and other behaviors
janedoe
Social media, platforms and user accounts
Smartphone and app usage
Online Purchases
Smart TVs, activity trackers, game consoles, e-readers, cars and other devices
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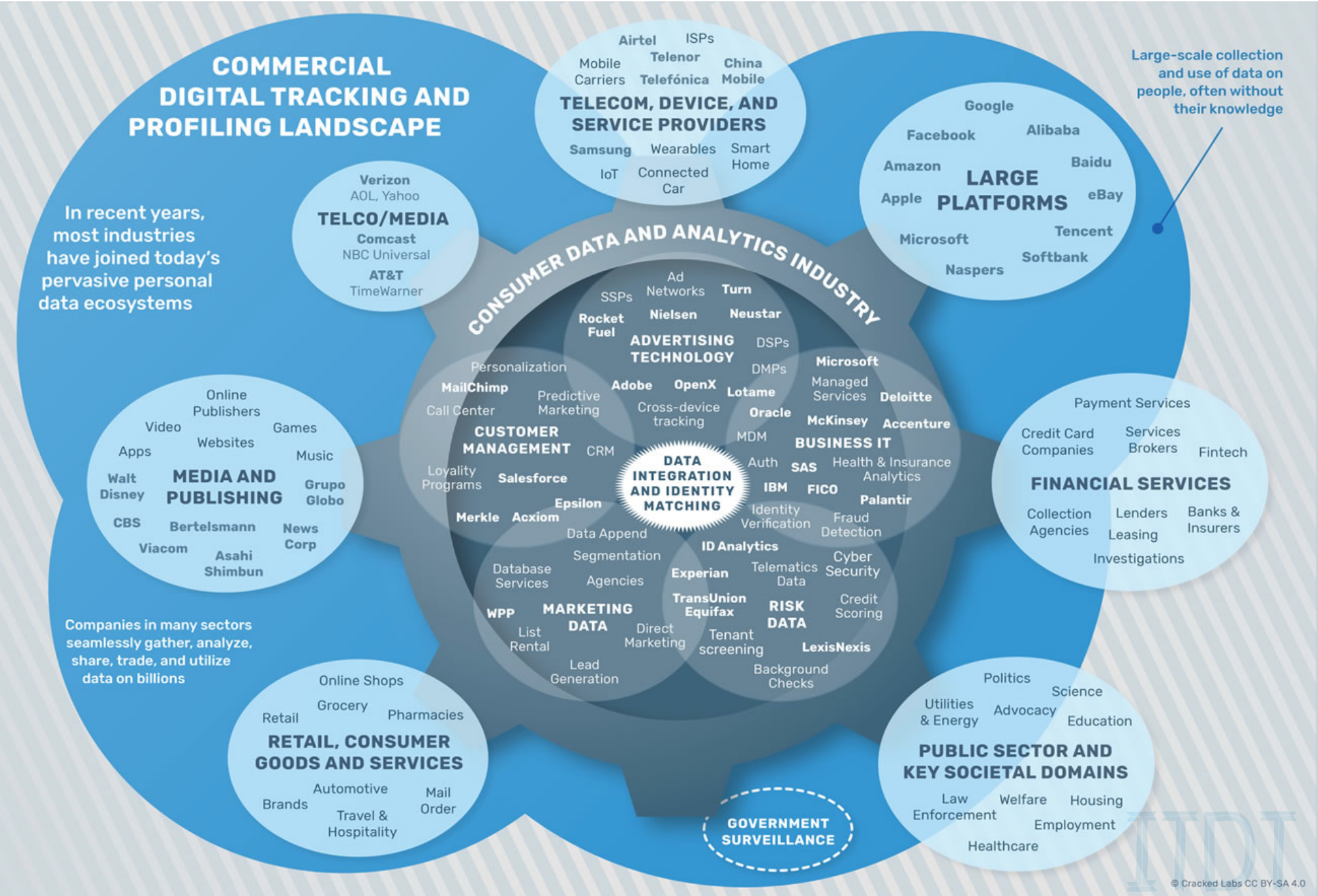
COMMERCIAL DIGITAL TRACKING AND PROFILING LANDSCAPE
In recent years, most industries have joined today's pervasive personal data ecosystems
Companies in many sectors seamlessly gather, analyze, share, trade, and utilize data on billions
Large-scale collection and use of data on people, often without their knowledge
CONSUMER DATA AND ANALYTICS INDUSTRY
TELECOM, DEVICE, AND SERVICE PROVIDERS
Airtel
ISPs
Mobile Carriers
Telenor
Telefónica
China Mobile
Samsung
Wearables
Smart Home
IoT
Connected Car
TELCO/MEDIA
Verizon
AOL, Yahoo
Comcast
NBC Universal
AT&T
TimeWarner
LARGE PLATFORMS
Google
Facebook
Alibaba
Amazon
Baidu
Apple
eBay
Microsoft
Tencent
Softbank
Naspers
MEDIA AND PUBLISHING
Online Publishers
Video
Games
Websites
Apps
Music
Walt Disney
Grupo Globo
CBS
Bertelsmann
News Corp
Viacom
Asahi Shimbun
ADVERTISING TECHNOLOGY
Ad Networks
SSPs
Turn
Rocket Fuel
Nielsen
Neustar
DSPs
DMPs
Personalization
MailChimp
Predictive Marketing
Adobe
OpenX
Lotame
Call Center
Cross-device tracking
Oracle
CUSTOMER MANAGEMENT
CRM
Loyality Programs
Salesforce
Epsilon
Merkle
Acxiom
DATA INTEGRATION AND IDENTITY MATCHING
BUSINESS IT
Microsoft
Managed Services
Deloitte
McKinsey
Accenture
MDM
Auth
SAS
Health & Insurance Analytics
IBM
FICO
Palantir
Identity Verification
Fraud Detection
ID Analytics
Data Append
Segmentation
Database Services
Agencies
Experian
Telematics Data
Cyber Security
TransUnion
Equifax
RISK DATA
Credit Scoring
WPP
MARKETING DATA
List Rental
Direct Marketing
Tenant screening
LexisNexis
Lead Generation
Background Checks
FINANCIAL SERVICES
Payment Services
Credit Card Companies
Services Brokers
Fintech
Collection Agencies
Lenders
Banks & Insurers
Leasing
Investigations
RETAIL, CONSUMER GOODS AND SERVICES
Online Shops
Grocery
Retail
Pharmacies
Automotive
Brands
Mail Order
Travel & Hospitality
PUBLIC SECTOR AND KEY SOCIETAL DOMAINS
Politics
Science
Utilities & Energy
Advocacy
Education
Law Enforcement
Welfare
Housing
Employment
Healthcare
GOVERNMENT SURVEILLANCE
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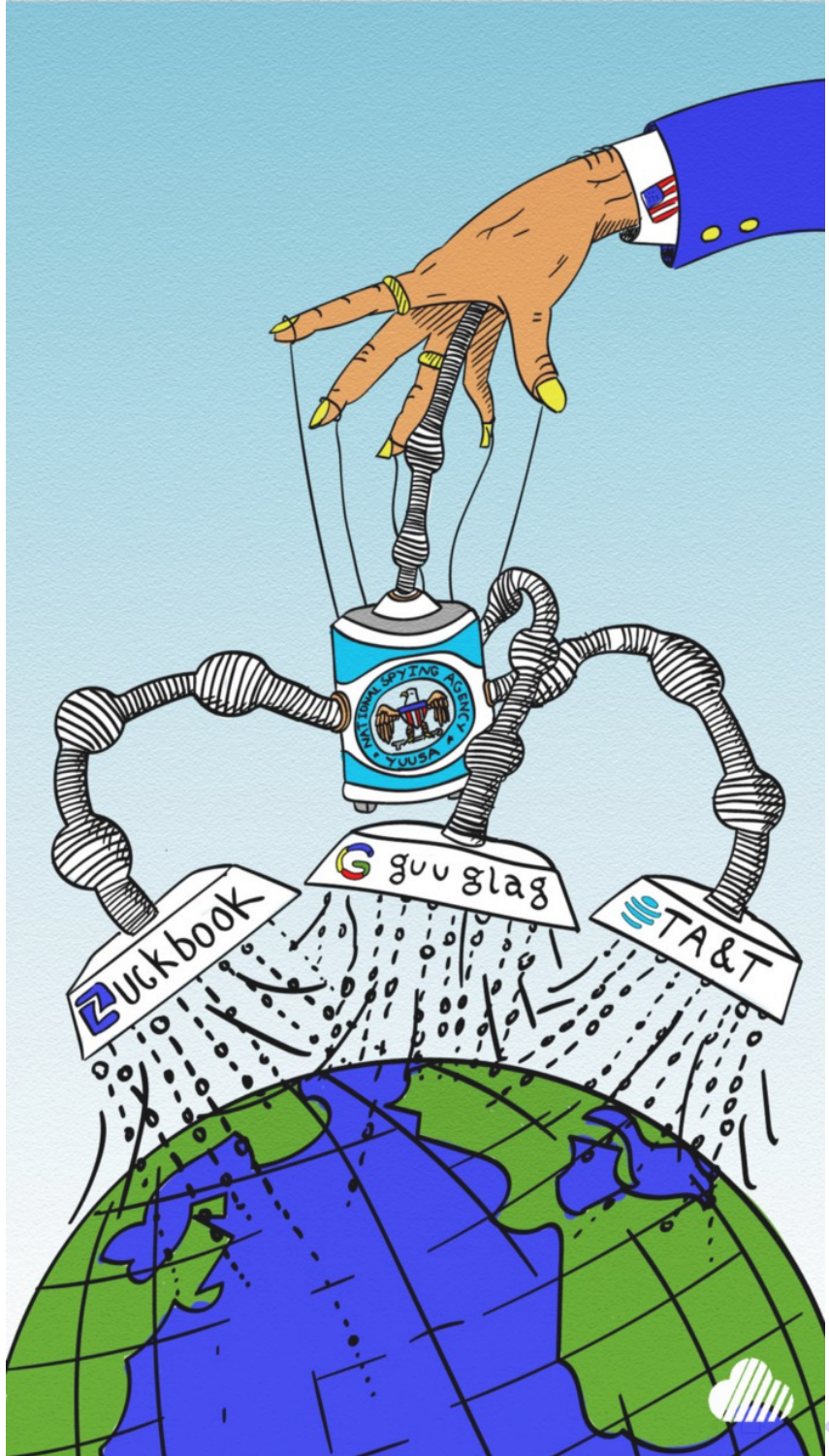
Data companies have extensive information on billions of people

			Large Online Platforms
Facebook	has profiles on	1.9 billion	Facebook users
		1.2 billion	Whatsapp users
		600 million	Instagram users
Google	has profiles on	2 billion	Android users
		1+ billion	Gmail users
		1+ billion	YouTube users
Apple	has profiles on	1 billion	iOS users
			Credit Reporting Agencies
Experian	has credit data on	918 million	people
	marketing data on	700 million	people
	„insights“ on	2.3 billion	people
Equifax	has data on	820 million	people
		1 billion	devices
TransUnion	has data on	1 billion	people
			Consumer Data Brokers
Acxiom	has data on	700 million	people
		1 billion	cookies and mobile devices
	it manages	3.7 billion	consumer profiles for clients
Oracle	has data on	1 billion	mobile users
		1.9 billion	website visitors
	provides access to	5 billion	“unique” consumer IDs



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成人
长袖
长裤
男
上身灰色
下身灰色
非机动车
成人
长袖
长裤
男
上身灰色
下身灰色
白色
SUV
非机动车
非机动车
非机动车
成人
长袖
长裤
男
上身深蓝色
下身深蓝色
成人
长袖
长裤
男
上身灰色
下身灰色
灰色

THE CYBER-BALKANIZED FUTURE
RUSSIA
EU
CHINA
UNITED STATES
BRAZIL

Συμπεράσματα

- Οι χρήστες έχουν τεράστια αξία
- Η αξιοπιστία της πληροφορίας που έχουμε για αυτούς ακόμα περισσότερο. Εμπιστοσύνη και liability
- Η διαχείριση χρηστών είναι core element σε κάθε φορέα ιδιωτικό ή δημόσιο
- Οφείλουμε να ορίσουμε το πλαίσιο του ”εμείς”
- Σε αυτό το πλαίσιο θα πρέπει να αναπτύξουμε το ελάχιστο επίπεδο τεχνογνωσίας για τη διαχείριση της κοινωνίας με αυτόνομο τρόπο

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