

KarlsGate

# Forever Changing Privacy Protection

Safeguard personal identities with  
secure access to consumer insights

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August 2020

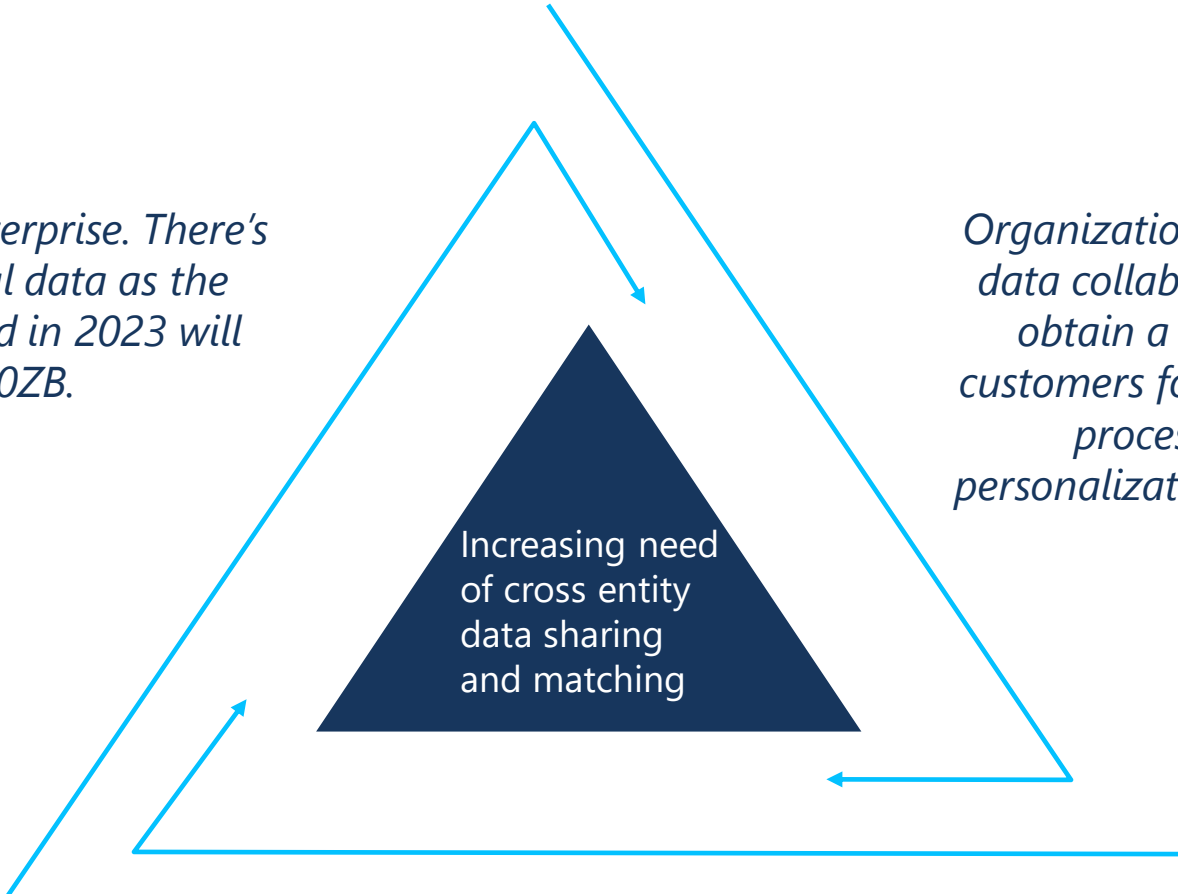


# THE PROBLEM DOMAIN

# The need for data collaboration has become essential

*Data fuels a modern enterprise. There's no shortage of internal data as the amount of data created in 2023 will reach over 100ZB.*

*Organizations increasingly need to establish data collaboration partnerships in order to obtain a robust understanding of their customers for executing a variety of business processes that include planning, personalization, targeting and measurement.*



Increasing need  
of cross entity  
data sharing  
and matching

*Driven by a combination of factors including a more restrictive regulatory landscape, the deprecation of 3rd party cookies and increased sensitivity pertaining to the use of personal data, a new era of identity management is forming whereby solutions are decentralizing – promising to ensure greater consumer protections while allowing organizations to extract the insights required to conduct targeting marketing practices at scale.*

# However, data flow is restricted due to "interruptions" in the supply chain

## Inadequate protection techniques



- Pseudonymized identity is still considered Personal Data and can be re-used and re-identified.
- Unauthorized usage is considered a data breach.
- 50% of Americans in 2019 had their data compromised.<sup>1</sup>
- Breach incidents in the US have doubled over the last 5 years and grown 9x since 2005.<sup>1</sup>
- This is a global problem with roughly 60% of cases resulting in identity theft.<sup>1</sup>

## Real risk of financial damages



- €332M GDPR fines in 2019 due to "the insufficient technical and organizational measures to ensure information security."<sup>2</sup>
- Equifax – \$3.5B historical data breach settlement in 2019.<sup>3</sup>
- Brand reputation risk is also a major concern – companies expect a 9% decrease in global annual sales as a result of a data privacy crisis event.<sup>4</sup>

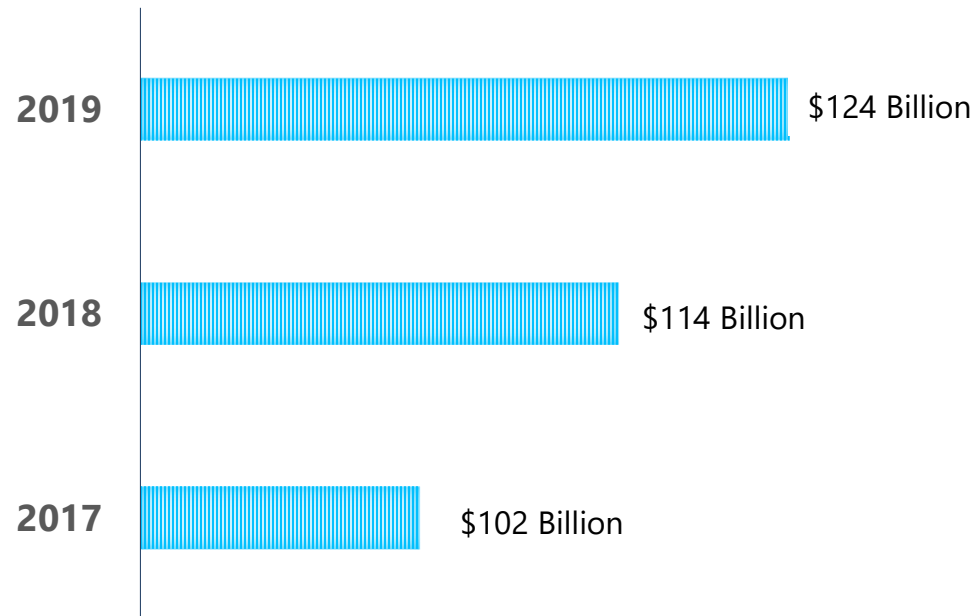
## Globalized privacy regulation



- GDPR has set the standard for the global legislative model.
- Significant new privacy laws have gone into effect (or are in discussion) in 2020 for 22 countries including Argentina, Australia, Brazil, Canada, Chile, China, Japan, Malaysia, New Zealand, Nigeria, Russia, Singapore, South Africa, South Korea, Thailand, Uganda, Uruguay, and the United States.<sup>5</sup>

# Increased spending on data security is being driven by privacy concerns

## Global security spending \*



\* Gartner worldwide security spending by market segment from 2017-2019;<sup>6</sup>

\* \*Data privacy study based on 500 large US based companies (60%+ C suite role + 28% middle management ) in 2020.<sup>4</sup>

## Key trends that are affecting spend\*

- At least **30%** of organizations will spend on GDPR-related services in 2019.
- Risk management and privacy concerns within digital transformation initiatives will drive additional security service spending in 2020 **for more than 40% of organizations.**
- SaaS will represent at least 50% of security software delivery by 2020.

## What companies are saying...\*\*

- **97%** of the companies stated they plan to **increase their data privacy spend by 50%**
- **60%** of respondents think the organization is under more scrutiny due to the expectation around how data is managed
- **79%** feel **vulnerable to the data privacy crisis**
- 68% rated systems and technology as very effective for data privacy compliance

# Collaboration between brands, media owners and data companies will accelerate given the deprecation of the 3<sup>rd</sup> party cookie

## WHY DATA OWNERS DON'T SHARE TODAY



They do not have the technology to trade directly



They do not trust their customer PII with other companies



The sending of PII would not be compliant



The sharing of information is not equitable or mutually beneficial

## WHY DATA OWNERS WANT TO SHARE



Data would be more relevant, timely and accurate



They could avoid the risks associated with “buying, renting and selling” consumer data



Almost every data owner has a mandate to monetize its data



Models that power strategy initiatives could use individual-level signals as opposed to aggregated, diluted data sets

*IDC: “The concerns regarding the privacy and security ..... can challenge the growth of the market. High risk of re-identification and data leakage while data is in transit”*

The text "THE SOLUTION" is centered and surrounded by five vertical bars of varying heights and colors (blue and green).

**THE SOLUTION**

The “Protected Data Age” has ushered in the need for a paradigm shift

## A trust-by-design identity exchange network...

A place to connect, explore, share and collaborate without worrying about data security and privacy risks



To facilitate the sharing of consumer information in a manner that **never exposes PII** and **blocks re-identification**.

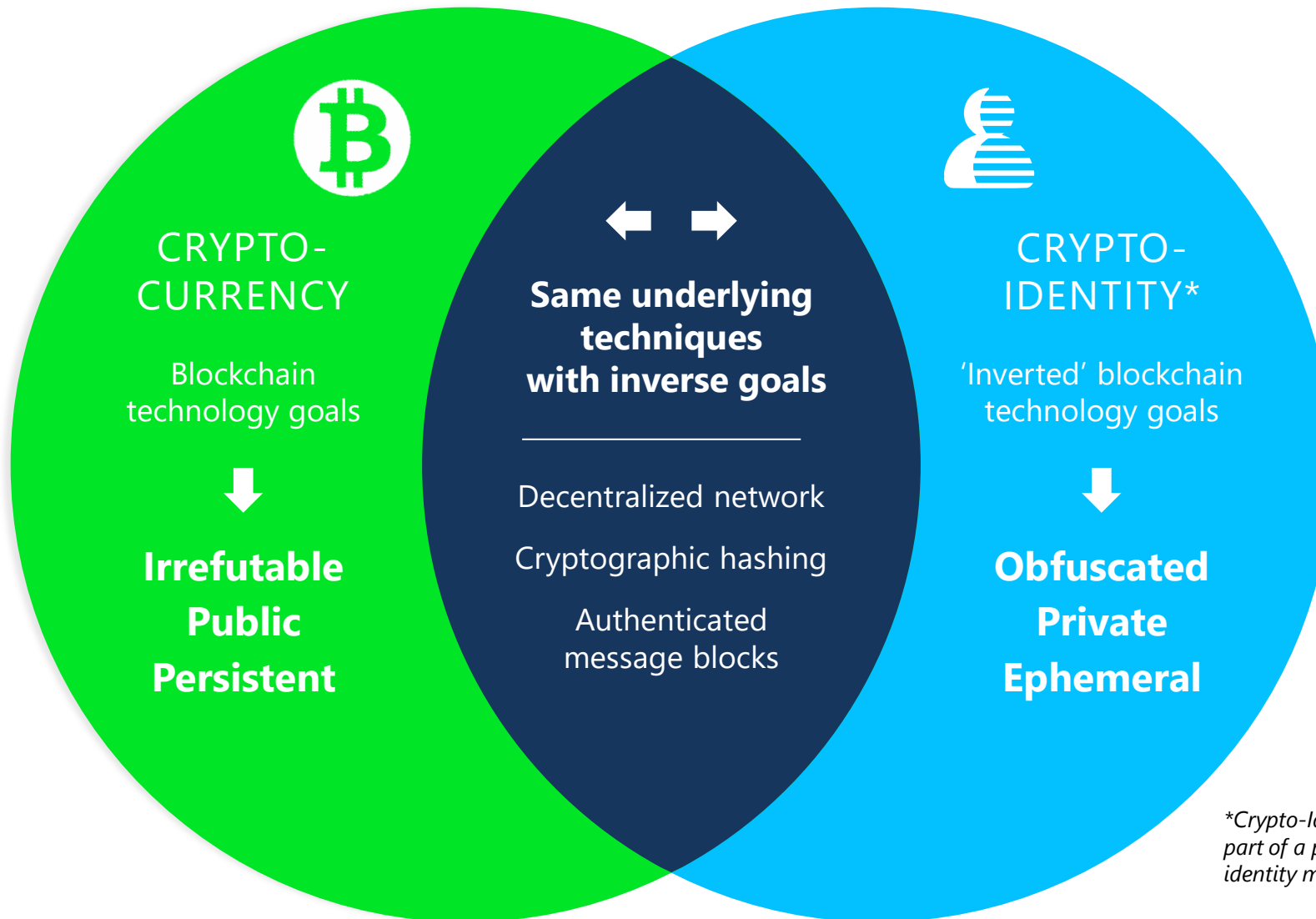


To **empower brands** to **directly partner** with other data owners in a **decentralized** way.

*Data can flow freely without having to “trust” a trading partner – the technology renders risks of re-identification mathematically impossible*

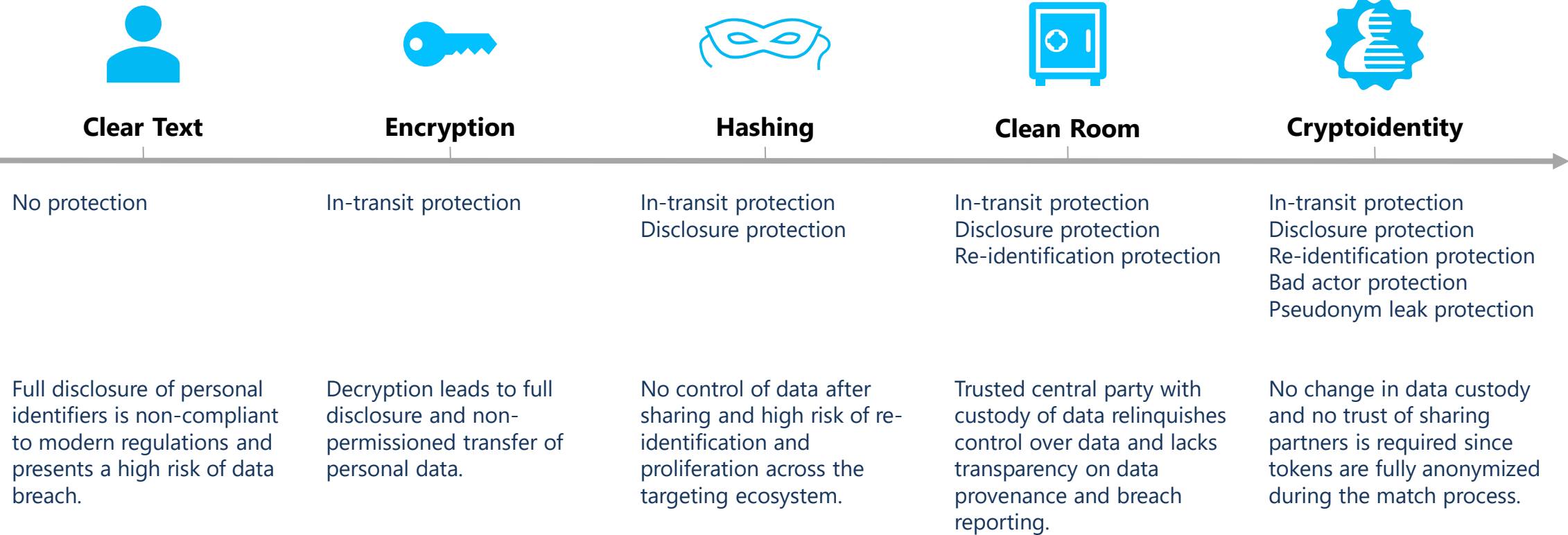


# Cryptography is changing the need for trust



*\*Crypto-Identity is a trademarked term and part of a patent-pending technological identity matching protocol of Karlsgate.*

# The evolution of PII protection



# Why it works better

## Current Identity Exchange



- Persistent and reusable hashed identifier used for matching purposes
- Match partners gain full exposure to all identifiers
- One party lacks all control over the match rules and security of the data transmitted
- Trust is needed, since identifying data can be leaked

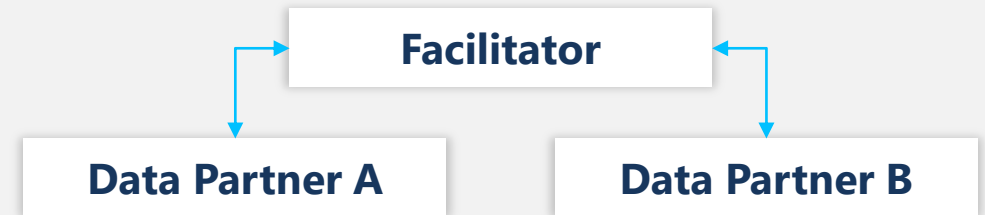
✘ Re-identification risk

✘ Data leakage risk

✘ Inequitable control over process

vs.

## Karlsgate



- Non-reusable cryptoidentity used for matching
- Match partners can only see their own cryptoidentities
- Match rules are obvious to all parties
- cryptoidentities have no identifying value to the facilitator
- Protection is completely ensured by technology

✔ Re-identification prevention

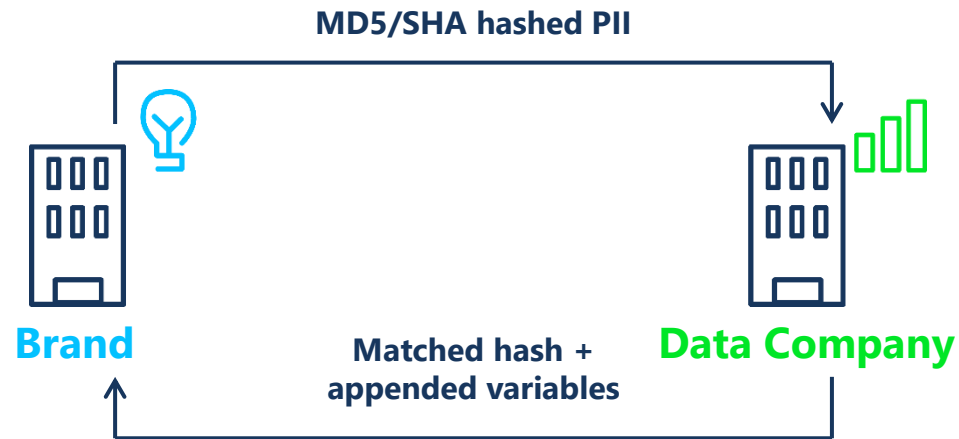
✔ No disclosure risk

✔ Equitable control over process

# Example use case #1 – Data Append

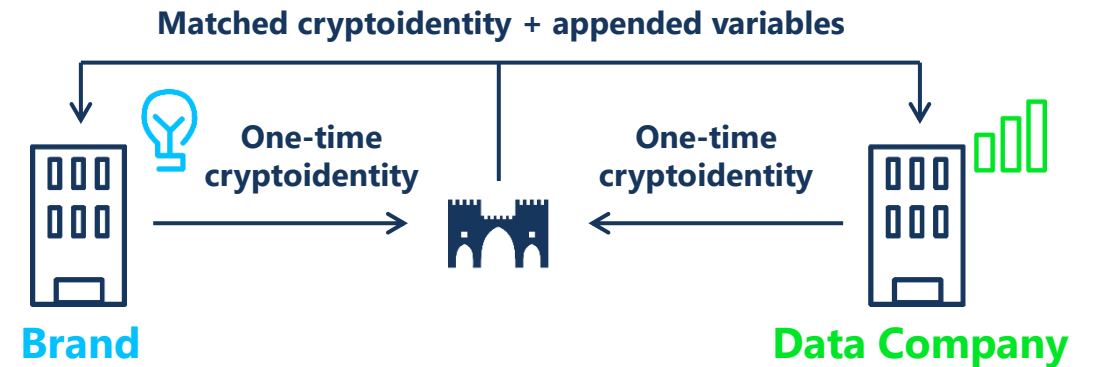
Use 3rd party data enrichment at individual level safely and securely

## Current Approach



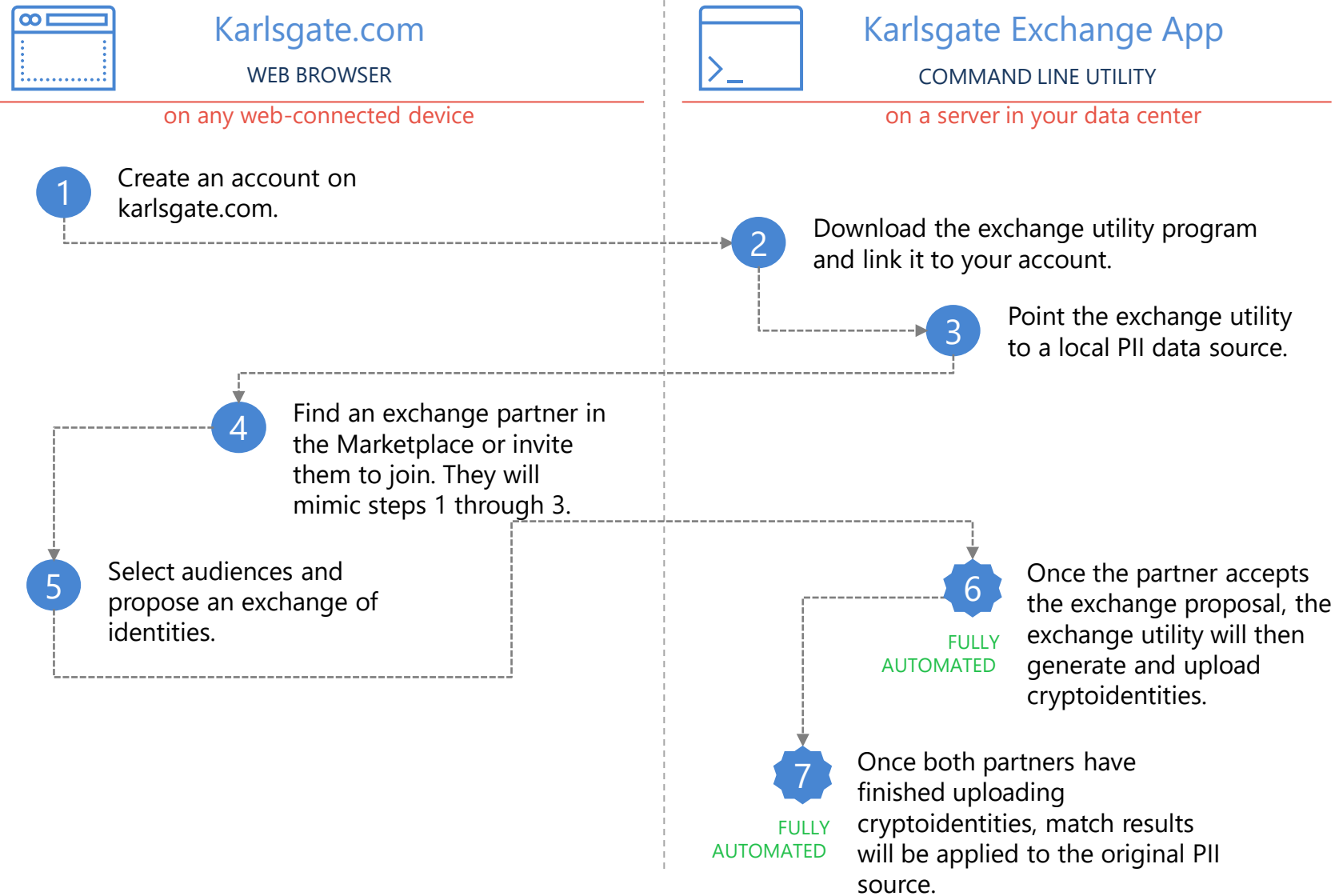
- All brand's PII/pseudo PII to data company
- High risk of data leakage
- High possibility of re-identification
- No control/transparency of match process

## KarlsGate



- All un-reusable KarlsGate cryptoidentities
- Anonymized cryptoidentity match on KarlsGate platform
- Trustable match result
- No re-identification and data leakage risk

# How the Karlsgate Identity Exchange Works



## Data Transformation Example

1 Original data file >>>  
Stays within firewall

```
KIE_step1.txt - Notepad
File Edit Format View Help
first_name,last_name,street_address,city,state,zip,email,ip_address,record_id
Sylvester,Pizzuto,46 N Winchester St,Wasilla,AK,99654,sylvester2003@gmail.com,207.181.215.201,0000000001
Leslie,Meunier,68 E Ramsey Rd,Seattle,WA,98144,lmeunier1975@hotmail.com,249.17.216.244,0000000002
Lei,Wagers,24 Scenic Hwy N,Scotland Neck,NC,27874,lei.wagers@yahoo.com,,0000000003
Les,Hanus,130 N Virgil Ave,Detroit,MI,48235,les@mail.com,10.186.194.252,0000000004
Jack,Danielsen,76 Mcgrath Rd Spc 6 A,Conesville,OH,43811,jack.danielsen@email.com,209.60.112.225,0000000005
Kellie,Reznick,201 Pontiac Ave Ste 5,Lexington,KY,40505,kellie.44@bellsouth.net,23.226.167.129,0000000006
Ross,Mathena,116 Monrovia St,Porterville,CA,93258,rmathena@fastmail.fm,53.84.37.217,0000000007
Anil,Sether,254 Sysco Dr,Riverside,CA,92503,anil36@outlook.com,221.156.126.246,0000000008
Paul,Eulberg,1245 Long Plains Rd,Orange City,IA,51041,paul149@sbcglobal.net,,0000000009
Jaclyn,Degaetano,1237 12 St P1 Ne,Portland,OR,97266,jdegaetano@sbcglobal.net,54.254.65.123,0000000010
```

2 Cryptoidentities >>>  
Uploaded to facilitator

```
KIE_step2.txt - Notepad
File Edit Format View Help
vNyK0rqU5B34oFZ2RMk1D1BwVhBdxhEZ25+ysCuDwX1Xhs1hFkNejFbYb7K51gcj|rFGalygTJTdUX4B4q01yMR3U8QDbEZT7FwbgLcHE9KU=
kACKjWAS5G+em20hp/9tOdcFRmRDEZdxKgm2orJZTIsPbWayb1S16ZaJKCFPJ4THv|RDZvZKwXhsvrK670I91N6W5aM97j3bW4aZYQAQfp+bQ=
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Yd156SiY2rduqmMD8ugenvjUzCD0iaVnj9W64g/oJI3TT3ccFwPcIkOb1LPS3TC3|N91dZj9o1rPZHGHjNjnesp0oVrTuMCCmgLrjnHalYtQ=
f2KDFiLNv9JqHvkobz24XI4/yitRG0mq34x38TMQX6Kckfhuyck1iYZJovHTBRa|Zx3bkfdU9do2/wBHCXm2HUx1Rb304bbC0dssp+nxXzAs=
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Xrt56acwZME6HjHN1ehqam08bF61qqbU620XcdQwe0ZEVh1ULdNktwIu/nKYtD|7gHyksQGwG15ftHth8drta9Khr1VZjT6MTmfzJbU0ho=
Baqbm10njxG5Phb934o4A035I4SLPRyHmxi3Zri5u2scwzNMQXgv2Gm7P/KzutIr|LcNh0L7d1r20M2BiwJ1W+JzxUjJE0AF8Es1h6E9cZ1I=
```

3 Match results file >>>  
Downloaded from facilitator

```
KIE_step3.txt - Notepad
File Edit Format View Help
1s7tDB5S8iQvgQZdY8L2jIO5AR722GrDu1xy0eA6Zi6w8TLQJV4d7xrhx+KA+d10|Y|qotpaI83Q4vtkhHja15tqjoQD2U+pnIZKnVx9iSMJ4=|5ef55606-4ab3-43b6-8047-c0c047b0e892
1s81s/t6jvPLmncnSRSRDyM4r92VLgvqx6XYLd6PI5y1oqAPuC/AX05eFD706cqr|Y|oCQ6YpzsFX1IU6aEF+ztjCNW7Fa0+YNaNHCV5taA68=|5d2b68d6-7991-406a-8ceb-189d313ece5f
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1s9aYIX5nwrBmgs+YJETpP07XAWQpc/oebDUPEnABLwhUydtU3KtqjkmM9H4Q2FS|Y|EmUGxGcgjOXN5zmOpUwS+z07Xi6Q4MQx26jHIJko92tY=|3a1c2872-b3b5-49ae-8a9c-2b14fb02eced
1s9F9vYW2LqG7h10uUvWG1dk6bz9T9anQDFyyxdVOX/On7yrLVIMuS1HymTAigFj|Y|lpX4xintfJa13iaI1fhWjMu7Q+Ta0TCKOHS7Tp7w+iM=|a740b649-c51b-49c8-bf2b-266d73da08f0
1sB3v+D3ckXevrJmT457Jq3SswMtvosOpChzLWjW9KkYASdYVeddgMwJ15cJIWfV|Y|5GieJU8HwNkiip8fzBjMInG0RRr0Z6PXynJBi3v64U=|70a8e54f-5dd9-4740-a3a1-52d30114ca1a
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1sCQUQE2WEGbG0Rz40tKSSK+Q/qfIpNkoKfnx6vFzplUwidVt391fnE+YsnpzWaOR|Y|cTQKedK3KkUDz1fp282V78mFY5azaAGUkhYwFiFQxs=|5e49cae0-68f7-4639-b0f6-4df1a337582e
1sCzZForgnIEjZaW4w8rRuJX5YSuStRE77AEwLghPA3rvLijzGciGfBuuFqSsBD6|Y|+zY6StAKA0qpSLraY/MV9VmX0GELNt5EqP/FgIiy/c=|8d333fa4-bdd4-4a7d-8102-eb3fad93cc5
1sCe9WS37c+QAcz4LD2uQk7hhDgr9QoAeWQpaM9jyWgizdw3yIo5biKZ3ITGLxJ4|Y|pDNjZ9zk76mzIiW0W0Ceo7f7XmZbiDns+M39/M/fZZ4=|84fac616-c31f-4b3e-9407-6b7f0f39df8c
```

4 Augmented data file >>>  
Stays within firewall

```
KIE_step4.txt - Notepad
File Edit Format View Help
first_name,last_name,street_address,city,state,zip,email,ip_address,record_id,Matched_X20201001203510,gender,car_make,Key_X20201001203510
Sylvester,Pizzuto,46 N Winchester St,Wasilla,AK,99654,sylvester2003@gmail.com,207.181.215.201,0000000001,Y,M,Ford,4e160b47-fdf2-44a3-8b38-9b23d949febe
Leslie,Meunier,68 E Ramsey Rd,Seattle,WA,98144,lmeunier1975@hotmail.com,249.17.216.244,0000000002,Y,F,Jaguar,f4f3b3d1-cea7-471b-8988-e573cbe3bd2e
Lei,Wagers,24 Scenic Hwy N,Scotland Neck,NC,27874,lei.wagers@yahoo.com,,0000000003,,,,
Les,Hanus,130 N Virgil Ave,Detroit,MI,48235,les@mail.com,10.186.194.252,0000000004,,,,
Jack,Danielsen,76 Mcgrath Rd Spc 6 A,Conesville,OH,43811,jack.danielsen@email.com,209.60.112.225,0000000005,Y,M,Land Rover,5f50c857-d669-4607-a035-da2eca776400
Kellie,Reznick,201 Pontiac Ave Ste 5,Lexington,KY,40505,kellie.44@bellsouth.net,23.226.167.129,0000000006,,,,
Ross,Mathena,116 Monrovia St,Porterville,CA,93258,rmathena@fastmail.fm,53.84.37.217,0000000007,Y,M,Volkswagen,cd0555d6-07ac-4531-913d-047ae04e4728
Anil,Sether,254 Sysco Dr,Riverside,CA,92503,anil36@outlook.com,221.156.126.246,0000000008,Y,,38899d30-df16-4b24-b923-da732108c776
Paul,Eulberg,1245 Long Plains Rd,Orange City,IA,51041,paul149@sbcglobal.net,,0000000009,,,,
Jaclyn,Degaetano,1237 12 St P1 Ne,Portland,OR,97266,jdegaetano@sbcglobal.net,54.254.65.123,0000000010,Y,F,,79059dac-633a-4bc4-b079-0f2d9f3f7d79
```

# KIE Features summary

KIE not only provides a completely safe and compliant way to exchange identity, but also offers an easy and automated experience allowing data to flow freely throughout the ecosystem.



## Zero Trust Exchange

- No PII ever leaves the original computing environment
- No persistent or re-usable identifier created
- No data retained
- No unmatched identities can be captured or re-identified as a side-effect



## Intelligent Data Match

- Automatically recognize the input identifier types
- Identify the best way to select and align the common identifiers from both sides
- Automatically perform any required pre-hashing before creating cryptoidentity



## Smart Listing

- Granular control of over the data available to partners
- Set minimum match thresholds to ensure anonymity
- Choice over marketplace visibility, use cases and consumer consent requirements



## Digital Contracts

- Easy to use & auditable digital contract
- Flexibility to negotiate with trading partners
- Automatic exchange execution after acceptance from both parties

# Benefits Summary



## Accelerate the Sales Process

- Match and evaluate data at network speed
- Avoid lengthy privacy and legal reviews that slow the sales process
- Remove client concerns about exposure to their data
- Run incremental and successive matches to optimize coverage in a single pass
- Determine match rates by provider and data element without either party sending data out of house



## Find New Data Partners

- Invite vendors to match and provide new or missing data
- Your file is available 24/7 for multiple passes & matches by any number vendors
- As new data arrives, matching is secure and executed
- Incremental, recurring append match jobs run at any time
- New sources available constantly



## “Approaching Zero”

- Legal barriers of testing are removed or eliminated
- Risk of data exposure is eliminated
- Cost of running match projects approaches zero
- Cost of data relationship management is minimized
- Cost of finding and onboarding new sources approaches zero
- Trust required to source, onboard, test new sources: approaching zero



## Be Compliant & Safe

- Community of like-minded best organizations who place a premium on ethical data sourcing
- No need for tokens, middlemen data bunkers/safe havens that require “trust”, middlemen, or Third-Party Data Agreements
- No risk of re-identification, data exhaust or residual uses
- Network effect: new potential trading partners added daily
- Identify, Match and Trade: Confident, Secure & Compliant



# Feature Matrix

	<b>Starter Package</b> Free	<b>Premium</b> Fuel Fee
	Limited volume and functionality	Pay-as-you-go or SaaS option
Match rate of intersecting identities	✓	✓
Segment membership (Y/N flag)	✓	✓
Non-identifying attributes		✓
Single-use pseudonym (record identifier)		✓
Other value-added functions		✓

**Fuel fee**  
Storage and computation fee for facilitator job

- Premium model**
- Retail fuel fee per 1000 hashed values
  - clients can opt for either a pay-as-you-go or SaaS model
  - Billed at the end of each month based upon actual usage or SaaS tier selected



Karls gate

Thank you

Tools for the Protected Data Age

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[karlsgate.com](http://karlsgate.com)