



## **Tech for Lawyers**

Decoding Tech

June 24, 2024



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## Agenda

# INTRODUCTION SUCCESS FOR TODAY MAIN COURSE

- Ecosystem Context
- Architecture
- PPTs
- Procurement

#### **QUESTIONS**



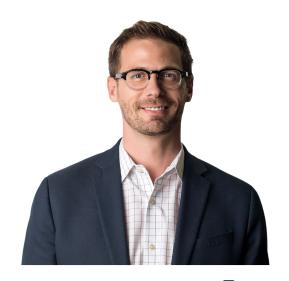
# INTRODUCTION





#### **Aaron Bean**

## Managing Partner @ Asemio



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#### ME:

- Returned U.S. Peace Corps Volunteer (Kazakhstan 2009-11)
- Worked in Big Data before Big Data was cool (Fortune 500 EMC)
- Led technology teams at the Cherokee Nation focused on catalyzing economic growth

#### **MY EXPERTISE AREAS:**

Technology architecture and design; privacy-preserving technology; organizational development; data ecosystem development

#### **MY PARTNERS:**

Community-based organizations, university partners, philanthropy, state and local government, collaborative action backbone organizations





# SUCCESS

## Success for Today

- Essential Questions
- Learning Objectives
- Learning Outcomes



## **Essential Questions**

- What tools and technologies are used to facilitate data sharing and integration?
- What are the benefits and risks of these technologies and tools?
- What are privacy-preserving technologies (PPT)? What are the benefits and risks of PPT?
- What factors or questions should be considered before building or procuring technology?



## Learning Objectives

- Identify the key tools and technologies used for data storage,
   management, transfer, processing, cybersecurity and data protection.
- Evaluate the legal risks and benefits of the technologies and tools that undergird IDS.
- Identify common PPT used in IDS and enumerate the legal risks and benefits of PPT.
- Iterate on important considerations like—what legal entity is charged with data security? How are metadata stored, updated, and communicated?—before procuring technology.



## Learning Outcomes

- Catalog their client's own current technologies that are used in their contexts to manage, protect, and secure data.
- Advise their clients on the legal risks and benefits of the tools and technologies used to facilitate data integration.
- Advise their clients on the legal risks and benefits of PPT.
- Generate a list of essential questions to help clients explore before procuring or building technology.





# MAIN COURSE



## What is IDS?

#### Definition of an I

## What is data sharing and how can it be used to improve the lives of individuals, families, and communities?

**Data sharing** is the practice of providing partners with access to information (in this case, administrative data) they can't access in their own data systems. Data sharing allows stakeholders to learn from each other and collaborate on shared priorities.

**Data integration** is a more complex type of data sharing that involves record linkage, which refers to the joining or merging of data based on common data fields. These data fields include personal identifiers, such as name, birth date, social security number, or an encrypted "unique ID" that is used to link or join records at the individual level.

Actionable Intelligence for Social Policy at University of Pennsylvania https://aisp.upenn.edu/about-data-sharing/ids-uses/#



#### Architecting Resilient and Adaptive Communities Through Technological Innovation

Asemio

January 1, 2016









All communities grapple with complex social problems that have detrimental effects on the well-being of their populations. One shared goal across problem-solving communities is the ability to improve outcomes for affected populations by increasing interoperability, refining resource alignment, and streamlining community services. Technology is often looked to as a panacea for achieving these systems-level advancements. Here, technology becomes the catalyst that prompts a community to advance its culture, governance, and infrastructure. For technology projects to truly be effective, there must be underlying community-wide principles that guide new initiatives and a framework through which individual stakeholders can weigh the pros and cons of different solution architectures.

This paper details the framework and accompanying principles that can assist communities in moving toward a more aligned, efficient, and interconnected state. We show how these concepts are tools that enable communities to apply successful service design principles to complex social problems, and we offer a case study of an initiative that follows this thinking.

#### READ MORE

Learn more about how we can help you improve your community outcomes through industry-tailored technology solutions here.

## Tools: Data Ecosystem Framework

#### **Asemio**

https://asemio.com/library/resource s/architecting-resilient-and-adaptive -communities-through-technological -innovation/

## **Framework Purpose**

- Understand the complexity and power of integrated data projects in the community (ie. establish a new language)
- Develop a conceptual framework used to assist with the evaluation of initiatives and apply changes where necessary
- Develop a framework that supports discussion regarding common standards

"How do we talk about, align, connect, and integrate the resources in a community that are focused on solving complex social problems?"

#### **Asemio**

https://asemio.com/library/resources/architecting-resilient-and-adaptive-communities-through-technological-innovation/

## **Data Ecosystem Framework**

#### Asemio

https://asemio.com/library/resources/architecting-resilient-and-adaptive-communities-through-technological-innovation/

#### **POINT OF VIEW**







#### **AREA OF ADVANCEMENT**

#### **CULTURE**

Speaks to the community data vision, resource commitment, and level of cooperation and trust.

**C**ommunity Vision

**R**esource Commitment

**L**evel of Cooperation and Trust

#### **GOVERNANCE**

Speaks to regulatory influence, community policy, and overall sustainability model

**P**rivacy and Security

**P**olicy

**S**ustainability Plan

#### **INFRASTRUCTURE**

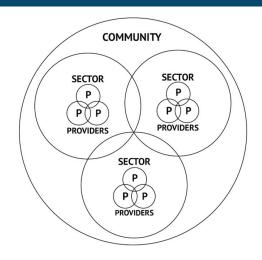
Speaks to knowledge management, level of fidelity to systems change models, and technical capabilities.

**K**nowledge Management

**M**ethodological Framework

**T**echnology Infrastructure

#### LEVEL OF WORK



Asemio Ecosystem Framework

## **Areas of Advancement**

#### **Asemio**

https://asemio.com/library/resource s/architecting-resilient-and-adaptive -communities-through-technological -innovation/

#### Element 3.

#### **CULTURE**

Speaks to the community data vision, resource commitment, and level of cooperation and trust.

- Community Vision
- Resource Commitment
- Level of Cooperation and Trust

#### **GOVERNANCE**

Speaks to regulatory influence, community policy, and overall sustainability model.

- Privacy and Security
- Policy
- Sustainability Plan

#### **INFRASTRUCTURE**

Speaks to knowledge management, level of fidelity to systems change models, and technical capabilities.

- Knowledge Management Capacity
- Methodological Framework
- Technology Infrastructure

## IDS Legal + Technology Overlap

- Governance
  - Compliance, privacy and security, and ethics
- Focus
  - Risk Reduction and efficiency creation
    - Sustainability
    - Agility
    - Scalability
- Challenges
  - Quickly evolving landscape of policy, problem domain, and solution sets
  - Tensions between agility and risk, data utility and privacy





## Dictionary

Definitions from Oxford Languages · Learn more



## ar·chi·tec·ture

/'arkə\_tek(t)SHər/

#### noun

- the art or practice of designing and <u>constructing</u> buildings. "schools of architecture and design"
- 2. the complex or carefully designed structure of something. "the chemical architecture of the human brain"
  - the conceptual structure and logical organization of a computer or computer-based system.
     "a client/server architecture"

## Social Policy Planning and Analysis Platform Framework



The functional areas that technology architecture supports.

#### Social Policy Planning and Analysis Platform Framework



**Technical** 

Lens

**Architecture** 





Governance and PM facilitated



Administrative data shared

**Pipeline Management** 



Integrated data analyzed



#### Governance and Project Management

Software supporting automation and codification of best practices for managing data sharing efforts, establishing and facilitating participation in governance, and classifying and storing information about social policy planning and analysis efforts

# Software that excels at providing data profiling, movement, transformation, and manipulation; may include connectivity, record linking, transformation, cleaning, standardization, de-identification, meta-data management,

data quality insight, geo-coding

#### **Statistical Tools** Visualization Software used Software used to help humans to analyze and interpret data visually explore, that has been recognize, and articulate curated and patterns in data prepared for analysis by the pipeline management infrastructure

# Results published Knowledge Management

Software supporting the

codification.

classification, storage,

change management,

and transmission of

information; supports the

transformation of raw

information into a format

that can support active

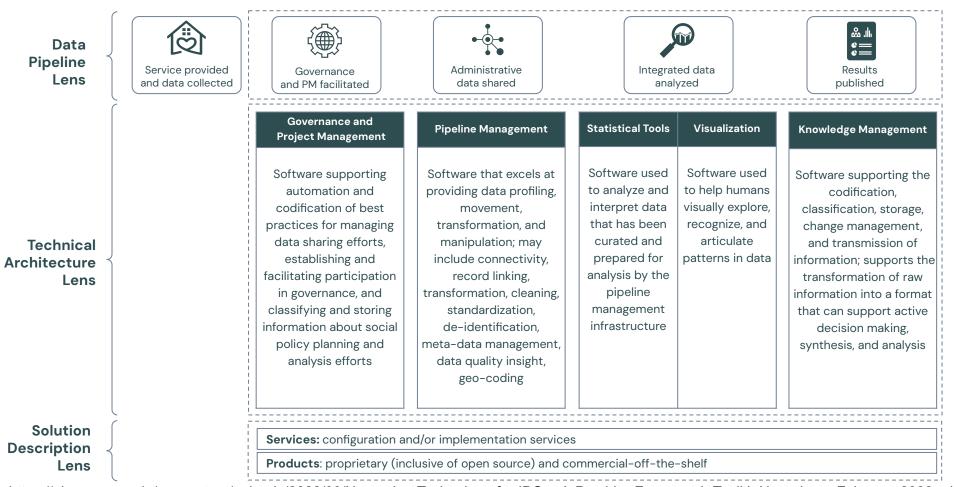
decision making,

synthesis, and analysis

## Technical Alignment

https://aisp.upenn.edu/wp-content/uploads/2022/09/Narrowing-Technology-for-IDS-\_-A-Provider-Framework-Toolkit-Narrative-\_-February-2022.pd

## Social Policy Planning and Analysis Platform Framework



## Introduction to Data Sharing and Integration

REPORTS + TOOLS / CAPACITY / GOVERNANCE / IMPACT / LEGAL / TECHNICAL

- Privacy and Security Guidance
  - Technical Security Section of this introductory document
  - Nearby experts

## Actionable Intelligence for Social Policy at University of Pennsylvania

https://aisp.upenn.edu/resource-article/introduction-to-data-sharing-and-integration/

#### **Data Security**

Data security is often seen as a technical consideration, but it is a multi-dimensional process that also includes legal, procedural, and physical components. These components vary widely by site, but could include:

#### Legal

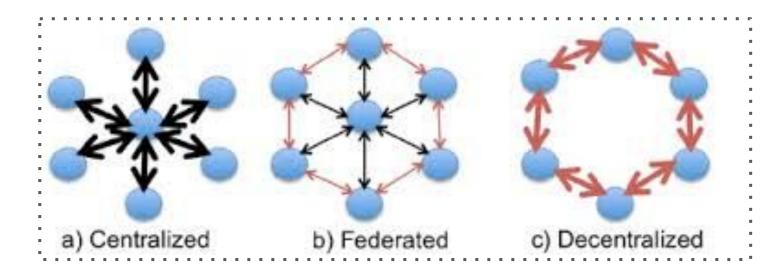
- > Organizational structure (e.g., entity with authority to conduct data integration, entity with liability/board/cyber insurance)
- Data sharing agreements, including MOUs, DULs, Cooperation Agreements, and Non Disclosure Agreements (NDAs)
- > Data license process
- Data security plans

#### Technical:

- ➤ Regular security audits
- > Passwords (dual authentication)
- > Encryption (data at rest, data in transfer)
- > Secure servers (e.g., public cloud, private cloud, on-premise)

HOW TO BEGIN DATA SHA

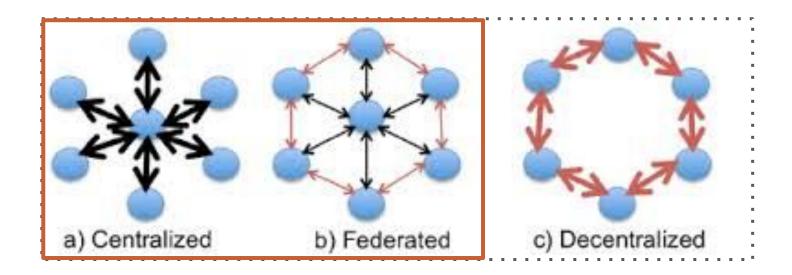
## What is IDS Architecture?



<u>Challenges of EA Methodologies Facing Progressive Decentralization in Modern Organizations</u>



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<u>Challenges of EA Methodologies Facing Progressive Decentralization in Modern Organizations</u>

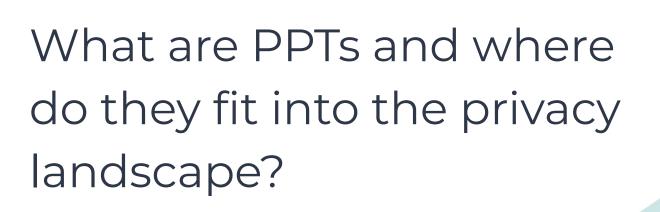


## Data sharing is **broken**.

... SLOW <sup>2</sup>.: DIFFICULT

.. RISKY

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## DEFINITION

What are privacy preserving technologies?

# PRIVACY PRESERVING TECHNOLOGIES (PPTs)

Also referred to as privacy-enhancing technologies (PETs), PPTs are technical approaches that minimize use of and need for personal data, including identifiers, while supporting record linkage through privacy techniques.

# VALUE PROPOSITION

Where do PPTs fit into the privacy landscape?

By more *quickly* meeting compliance, legal, and security concerns for extremely sensitive data:

#### **REGULATORY** SENSITIVITY

Examples: 42 CFR Part 2 entities, HIPAA/FERPA crossovers

#### **SOCIAL** SENSITIVITY

Examples: Domestic violence and legal service organizations

#### **POLITICAL SENSITIVITY**

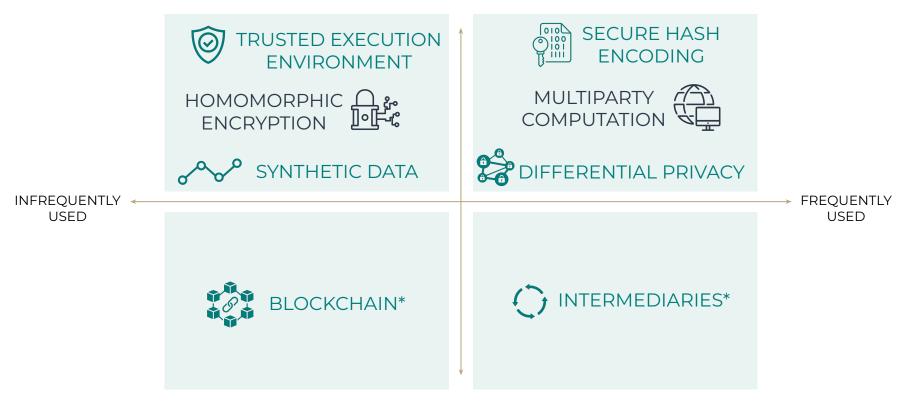
Examples: Tribal, State, and Federal crossovers

## Different Methods

## Different PPT Methods

From AISP Network Convening June 2022 – Key Topics in Privacy Preserving Technology Given by Dr. Amy O'Hara Georgetown Massive Data Institute and Aaron Bean, Asemio

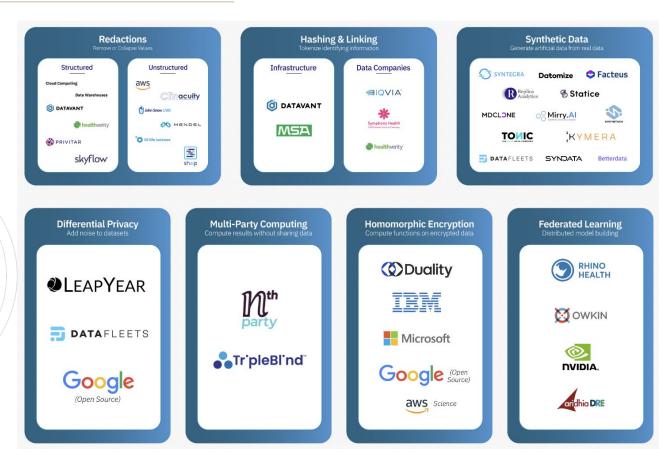
#### MORE USEFUL



LESS USEFUL

## Broader Landscape

### Privacy Preserving Technology Landscape



From AISP Network Convening June 2022 – Key Topics in Privacy Preserving Technology Given by Dr. Amy O'Hara Georgetown Massive Data Institute and Aaron Bean, Asemio

Graphic Credit:

<u>Datavant</u>







## Community Level **Success** with Data Sharing

"How do we make data sharing easier and more accessible in Tulsa?"

#### THE RESULTS

Data from a **12-year period** accessed from **32** programs
Participation from **8** organizations
Insights to **5** community questions

the time invested when compared with traditional methods

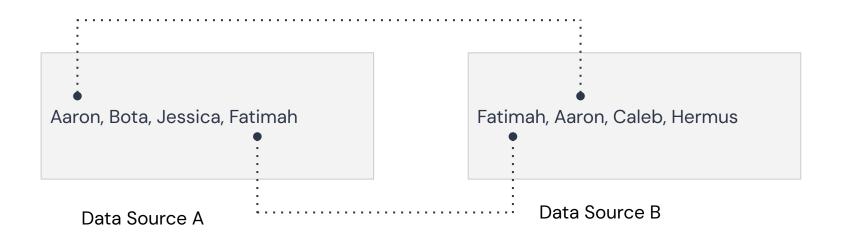
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... all achieved in 2 months' time

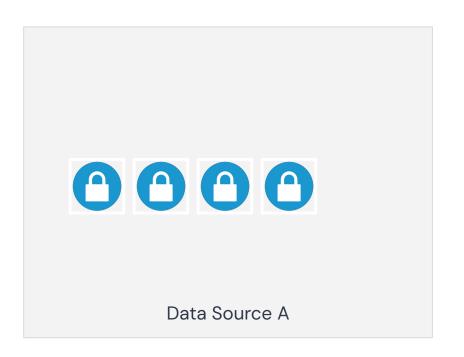
## Introduction: Privacy-Preserving Record Linkage

- Secure Hash Encoding
- How does it work?

## Record Linkage: Plain Text Sharing



## Record Linkage: Not Sharing Data



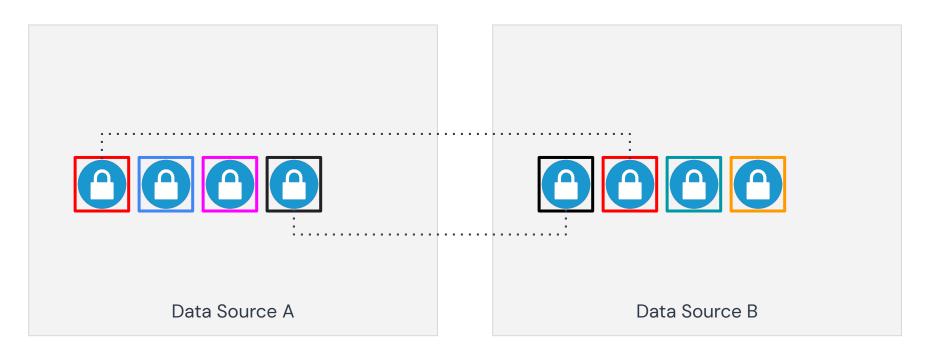


## Record Linkage: Secure Hash Encoding





## Link Records without sharing sensitive information



## A Resilient Ecosystem Development Tool

- Balances privacy and utility
- Advances ethical and legal mandates
- Risk reduction of compromises and breaches
- Reduce research cycles by shortening governance cycles
- Access difficult to access data sources with added protection



## **Decoding: Procurement Risk**

#### Top Three Criteria to Evaluate When Selecting a Technology Partner for a Nonprofit

- Organizational Maturity
- Relevant Experience
- Communication and Relationship-Building



Top Three Criteria to Evaluate When Selecting a Technology Partner for a Nonprofit

READ >

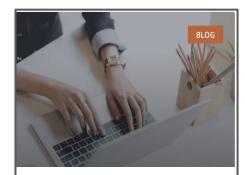
#### Build vs. Buy: What's the Right Choice for Your Organization?

- What, Exactly?
- Build vs. Buy: Four Factors to Consider
- The Bottom Line



Build vs. Buy: What's the Right Choice for Your Organization?

READ >



Custom Software for Nonprofits: Is it Right for Your Organization?

READ >



#### Top Three Criteria to Evaluate When Selecting a Technology Partner for a Nonprofit

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#### More Content:

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Top Three Criteria to Evaluate When Selecting a Technology Partner for a Nonprofit

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Thank you

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