

# TRANSFORMATION AND SHARED SERVICES DIVISION OF INFORMATION SYSTEMS

## Arkansas Data Hub

Arkansas Data and Transparency Panel  
Thursday, September 19, 2024



# Agenda

1. Data Hub Overview
2. Cross-Agency Data Sharing
3. Data Virtualization
4. Master Data Management
5. Data Catalog
6. Unlocking the Toolbox



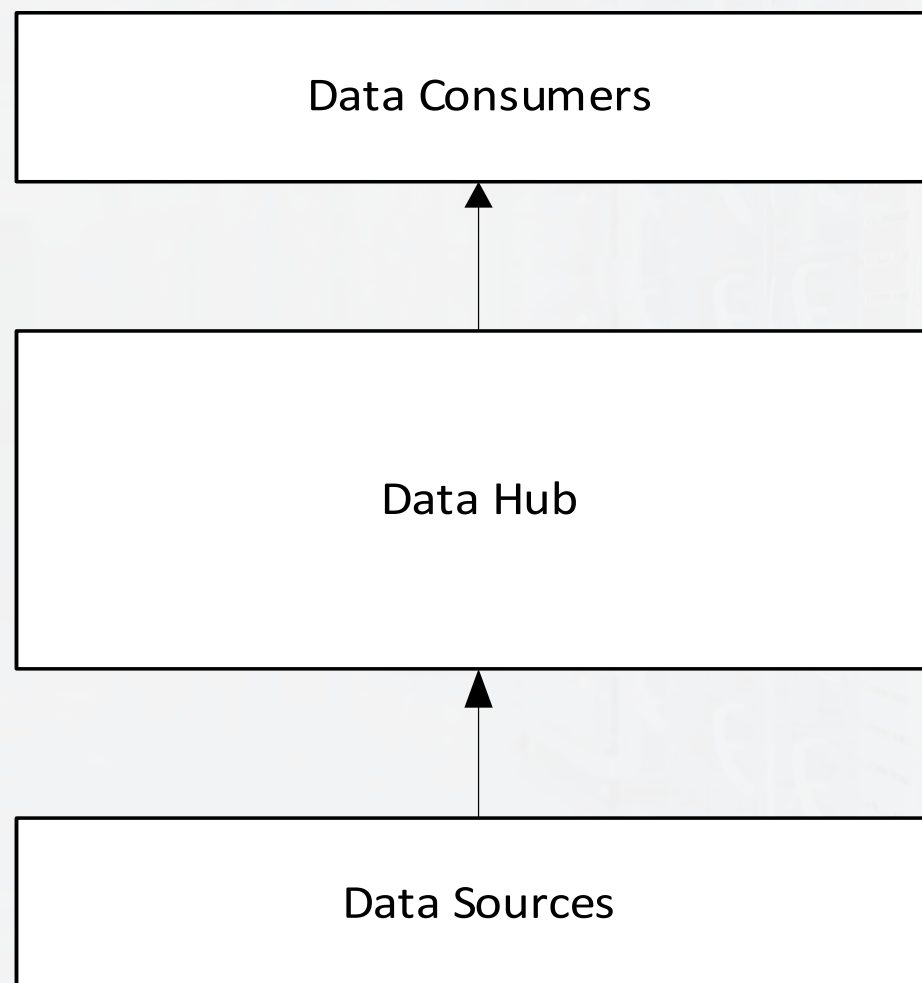
# Defining the Arkansas Data Hub

A statewide shared service data infrastructure required by Act 634 of 2023 for facilitating the sharing, integration, accessibility, quality, standardization, and governance of data.

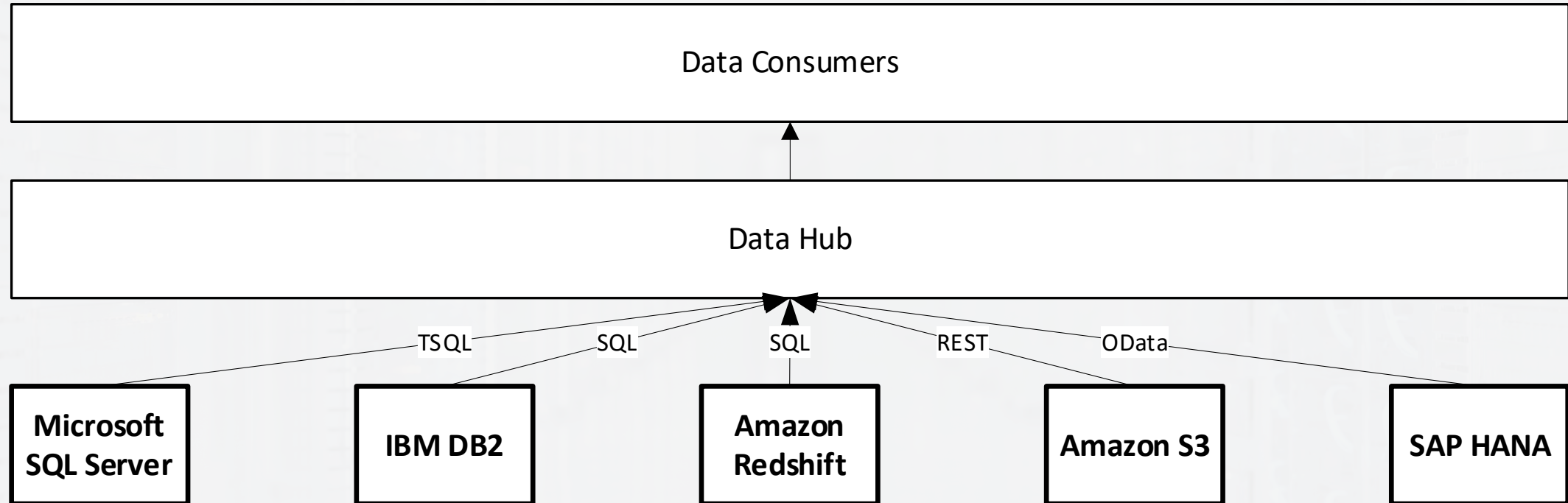


# High Level Architecture

The Arkansas Data Hub facilitates secure, governed, sharing, and integration of data across multiple sources for use by a wide variety of operational and analytical data consumers and use cases.

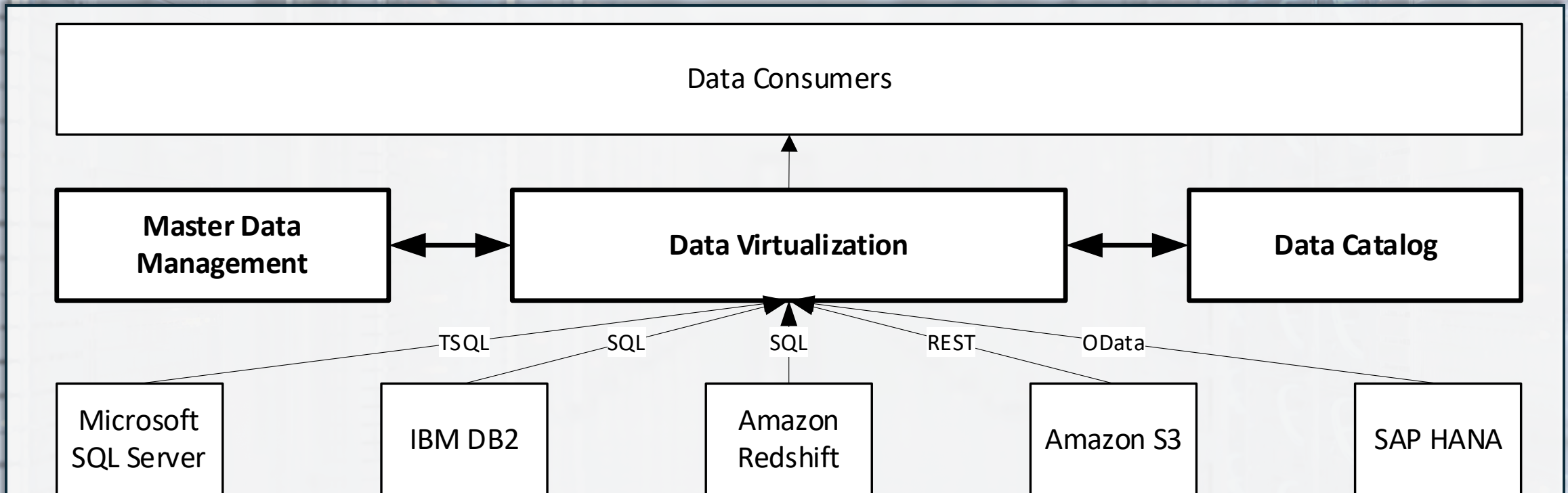


# Data Sources



State data are distributed across a wide variety of sources with different stewards, locations, formats, and representations.

# Key Data Hub Components



Data Virtualization, Master Data Management, and a Data Catalog work together as key components of a “data fabric” to provide a comprehensive, real-time view across disparate data sources.

# Defining a Data Fabric

- Connects all the state's business data, no matter where it is stored, making it easily accessible, secure, and ready for real-time use.
- Simplifies data management, enabling faster decisions, better insights, and smoother operations across departments.
- Secures data by controlling who can access it, encrypting it and ensuring compliance.



# Arkansas Data Hub - Security

## Advantages:

- On-premise environment hosted by the state.
- Authentication uses our internal Active Directory.
- By default, inbound and outbound connections are denied unless specified to allow.
- Data is secured by using industry-supported encryption.
- Security best practices include:
  - Ongoing vulnerability management
  - Penetration testing
  - Privacy assessments
  - Security testing
  - Patch management
- Multiple layers of physical, network, and application security.





# Arkansas Data Hub – Data Sharing

- The Arkansas Data Hub allows fast and secure data sharing through many integration points and views.
  - The data remains in the source system but allows a snapshot view of data that the agency data steward controls.
  - 90+ source connectors built in to allow for flexibility.
- Features allow the user to see what data is available in a protected view for the user then to contact the agency-specific data steward to arrange data sharing.



# Data Hub Example Use Case

## Corrections and Arkansas Court Connect

- Incarcerated individual has upcoming court date.
- Court has no way of knowing the individual is incarcerated.
- Individual is issued a warrant for missing their court date, so they recidivate upon release.



# Data Hub Example Use Case

## **Offender Intake Process: Gathering High School Diploma or GED**

- Corrections must verify a high school diploma or equivalency (GED) upon intake.
- Corrections staff calls the school district to search for and confirm high school diploma or equivalency attainment, which involves staff time on both Corrections and the school district.



# Arkansas Data Hub – Data Virtualization

**Real-time data integration tool that allows for a unified view of data from multiple sources.**

Key benefits:

- Link heterogeneous data sources into a common language.
  - Cloud, On-Prem, Database, API
- Fast and easy data sharing reduces workload on staff. (Improves timeliness)
- Data protection and governance
  - Role-based access controls
  - Data privacy rules (masking, redaction, obfuscation, etc.)
  - Federal Information Processing Standards (FIPS) compliant

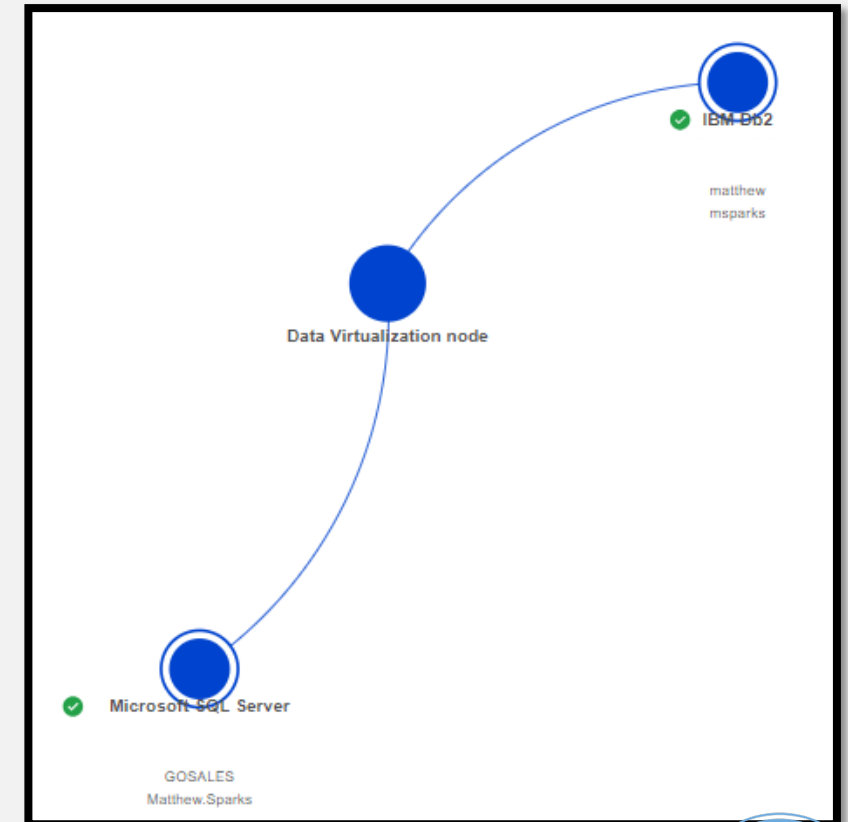


# Data Virtualization Demonstration – Dummy Data

Microsoft SQL Server		
Table: EMPLOYEE   Schema: WHATEVER1		
Find columns		
Column name		Data type
<input checked="" type="checkbox"/> EMPLOYEE_CODE		INTEGER
<input checked="" type="checkbox"/> FIRST_NAME		VARCHAR
<input type="checkbox"/> FIRST_NAME_MB		VARCHAR
<input checked="" type="checkbox"/> LAST_NAME		VARCHAR
<input type="checkbox"/> LAST_NAME_MB		VARCHAR
<input checked="" type="checkbox"/> DATE_HIRED		TIMESTAMP
<input checked="" type="checkbox"/> TERMINATION_DATE		TIMESTAMP
<input type="checkbox"/> TERMINATION_CODE		INTEGER
<input checked="" type="checkbox"/> BIRTH_DATE		TIMESTAMP
<input checked="" type="checkbox"/> GENDER_CODE		SMALLINT
<input type="checkbox"/> WORK_PHONE		VARCHAR
<input type="checkbox"/> EXTENSION		VARCHAR
<input type="checkbox"/> FAX		VARCHAR
<input checked="" type="checkbox"/> EMAIL		VARCHAR

IBM DB2		
Table: EMPLOYEE_HISTORY   Schema: WHATEVER1		
Find columns		
Column name		Data type
<input type="checkbox"/> EMPLOYEE_HISTORY_CODE		INTEGER
<input type="checkbox"/> EMPLOYEE_HISTORY_PARENT		INTEGER
<input type="checkbox"/> EMPLOYEE_CODE		INTEGER
<input type="checkbox"/> RECORD_START_DATE		TIMESTAMP
<input type="checkbox"/> RECORD_END_DATE		TIMESTAMP
<input type="checkbox"/> POSITION_CODE		INTEGER
<input type="checkbox"/> POSITION_START_DATE		TIMESTAMP
<input checked="" type="checkbox"/> MANAGER_CODE		INTEGER
<input checked="" type="checkbox"/> MANAGER		VARCHAR
<input type="checkbox"/> MANAGER_MB		VARCHAR
<input checked="" type="checkbox"/> BRANCH_CODE		INTEGER
<input checked="" type="checkbox"/> ORGANIZATION_CODE		VARCHAR



# Data Virtualization Demonstration – Dummy Data

Views ▾

Find schemas or views

Show system schemas Refresh

### Schemas

Name	Definer type	Views
<input checked="" type="checkbox"/> WHATEVER1	User	1
<input type="checkbox"/> DB2INST1	User	0
<input type="checkbox"/> Whatever	User	0
<input type="checkbox"/> MATTHEW.SPARKS@AR...	User	0
<input type="checkbox"/> DEFAULT	User	0

Total: 5, selected: 1

### Views

New view +

Name	Schema	Properties
<input checked="" type="checkbox"/> Employee Manager	WHATEVER1	...

Total: 1, selected: 1

### View definition

Employee Manager View definition

Name	Data type	Nullable	Length	Scale
MANAGER	VARCHAR	Y	56	0
MANAGER_CODE	INTEGER	Y		0
ORGANIZATION_CODE	VARCHAR	Y	10	0
BRANCH_CODE	INTEGER	Y		0
EMPLOYEE_CODE	INTEGER	Y		0
FIRST_NAME	VARCHAR	Y	75	0
LAST_NAME	VARCHAR	Y	90	0
DATE_HIRED	TIMESTAMP	Y	12	9
TERMINATION_DATE	TIMESTAMP	Y	12	9
BIRTH_DATE	TIMESTAMP	Y	12	9
GENDER_CODE	SMALLINT	Y		0
EMAIL	VARCHAR	Y	120	0

View data



# Data Virtualization Demonstration – Dummy Data

Views ▾

WHATEVER1 Employee Manager Back

Export to CSV

MANAGER	MANAGER_CODE	ORGANIZATION_CODE	BRANCH_CODE	EMPLOYEE_CODE	FIRST_NAME	LAST_NAME	DATE_HIRED	TERMINATION_DATE	BIRTH_DATE	GENDER_CODE	EMAIL
Jaghe Heiman	10323	0790	40	10232	Jeri	Hack	2011-05-30 00:00:00		1974-03-06 00:00:00	0	JHack@gn123.com
Jaghe Heiman	10323	0790	40	10480	Amy	Brown	2010-06-15 00:00:00		1972-01-08 00:00:00	1	ABrown@gn123.com
Jaghe Heiman	10323	0790	40	10482	Wako	Levie	2013-01-02 00:00:00		1972-04-23 00:00:00	1	WLevie@gn123.com
Jaghe Heiman	10323	0790	40	10326	Margot	Scarsone	2006-12-15 00:00:00		1967-09-20 00:00:00	1	MScarsone@gn123.com
Jaghe Heiman	10323	0790	40	10325	Madeira	Blanc	2012-04-17 00:00:00		1995-06-30 00:00:00	1	MBlanc@gn123.com
Jaghe Heiman	10323	0790	40	10324	Lorraine	Lambert	2013-01-04 00:00:00		1990-09-25 00:00:00	1	LLambert@gn123.com
Adriano Iacobucci	10368	0730	40	10487	Arya	Brethel	2012-11-14 00:00:00		1985-06-24 00:00:00	1	ABrethel@gn123.com
Adriano Iacobucci	10368	0730	40	10685	Michel	Martin	2008-03-12 00:00:00	2012-11-13 00:00:00	1975-01-31 00:00:00	0	MMartin@gn123.com
Adrienne Rashe	10275	0790	6	10452	Jane	Dean	2006-10-02 00:00:00		1968-11-24 00:00:00	1	JDean@gn123.com
Aert Meyer	10412	0790	9	10130	Eduard	Adams	2009-04-17 00:00:00		1966-12-31 00:00:00	0	EAdams@gn123.com
Agnette Visser	10413	0720	9	10140	Geert	Aufjes	2008-02-13 00:00:00		1982-04-12 00:00:00	0	GAufjes@gn123.com
Agnette Visser	10413	0720	31	10756	Enso	Ivasko	2007-09-11 00:00:00	2012-02-15 00:00:00	1975-06-10 00:00:00	0	Eivasko@gn123.com
Agnette Visser	10413	0720	15	10430	Kim	Lindgren	2009-09-29 00:00:00		1983-00-01 00:00:00	1	KLindgren@gn123.com
Agnette Visser	10413	0720	31	10429	Jari	Öndars	2012-02-16 00:00:00		1985-05-14 00:00:00	0	JOndars@gn123.com
Alan Wilcox	10054	1010	19	10062	Ken	Chambers	2005-06-17 00:00:00		1978-12-12 00:00:00	0	KChambers@gn123.com

Items per page: 50 ▾ 1-50 Items page 1



# Arkansas Data Hub – Master Data Management (MDM)

**Master Data Management (MDM) resolves differences in semantics across different references across one or more sources to the same real-world entity. (person, household, organization, etc.)**

A statewide MDM service facilitates:

- Entity resolution
- Clerical review
- Data consolidation (golden record survivorship)
- Consent management





# Arkansas Data Hub – Data Catalog

## Defining a Data Catalog

- Cross-agency **data discovery** and **data lineage**
  - Self-service access
  - Ability to see where data has come from and what has been done to the asset along the way.
  - Supports data change management
- Provides **data quality** insights to enhance data
  - Identifies data issues at the source
  - Data profiling gives a quick analysis of completeness, representational consistency and other relevant profiling metrics
- Protected user view through **data privacy** and **protection** practices



# Arkansas Data Hub – Data Catalog

## Data Discovery

- Empowers users to find domain-specific data for various agency projects and/or use cases.
- All users can be granted access to view metadata.

## Data Lineage

- Complete history of your data, from its source, through each transformation, to its final endpoint.
- Identify causes of data errors.
- Track changes that have happened to the data asset.
- Assess the impact of changes by identifying where the asset is used.



# Arkansas Data Hub – Data Catalog

## Data Quality

How does a data catalog help with data quality?

- Enhances data quality by providing structure, visibility, and governance over data assets
- Ensures that the information is trustworthy and suitable for:
  - Analysis
  - Decision-making
  - Reporting
  - Other data-driven activities



# Arkansas Data Hub – Data Catalog

## Data Protection

- Data governance policies will define how data should be accessed, shared, and protected (under the direction of the State Cybersecurity Office).
- Data privacy
  - Data can be masked, obfuscated, filtered, redacted or denied access to.
  - The platform provides encryption at rest and in transit.
  - Helps adhere to privacy regulations.
- Role-based access control
  - Roles include Admin, Viewer, and Editor.
  - Data protection rules apply to all users. (Exception: catalog and asset owners)



# Data Catalog Demonstration – Dummy Data

Default Catalog

Assets    Access control    Settings

Recently added    Recommended    Highly rated

Data WHATEVER1.Employee Man... Owner: Matthew Sparks Added: Sep 10, 2024, 10:44 AM type:view ☆☆☆☆☆ 0 reviews	Data WHATEVER1.EMPLOYEE Owner: Matthew Sparks Added: Sep 10, 2024, 10:40 AM ☆☆☆☆☆ 0 reviews	Data WHATEVER1.EMPLOYEE_HI... Owner: Matthew Sparks Added: Sep 10, 2024, 10:40 AM ☆☆☆☆☆ 0 reviews	Connection Watson Query - zen Owner: System Added: Aug 13, 2024, 03:53 PM ☆☆☆☆☆ 0 reviews	Data MDMSample.csv Owner: Unavailable Added: Aug 16, 2023, 10:23 AM ☆☆☆☆☆ 0 reviews	Data MASKINGSAMPLE Owner: Unavailable Added: Jul 26, 2023, 09:59 AM SSN Upgraded_RK ☆☆☆☆☆ 0 reviews	Connection db2oltp Owner: Unavailable Added: Jul 17, 2023, 02:50 PM SSN ☆☆☆☆☆ 0 reviews
---	---	---	---	---	--	--

Find assets    Save search

Name	Owner	Tags	Business terms	Asset type	Date added
MASKINGSAMPLE	UN Unavailable	SSN Upgraded...		Data	Jul 26, 2023
MDMSample.csv	UN Unavailable			Data	Aug 16, 2023
WHATEVER1.EMPLOYEE	MS Matthew Sparks			Data	Sep 10, 2024
WHATEVER1.EMPLOYEE_HISTORY	MS Matthew Sparks			Data	Sep 10, 2024
WHATEVER1.Employee Manager	MS Matthew Sparks	type:view	Employee	Data	Sep 10, 2024
Watson Query - zen	FX System			Connection	Aug 13, 2024
db2oltp	UN Unavailable	SSN		Connection	Jul 17, 2023



# Data Catalog Demonstration – Dummy Data

Catalogs > Default Catalog >

Data  
WHATEVER1.Employee Manager Remove Add to project +

Overview **Asset** Profile Lineage Data quality Access Review Feature group

Columns

Find column

Column name	Quality score	Source type	Description	Business terms	Data class
EMPLOYEE_CODE	100%	integer(10)	-	Employee Number	Code
FIRST_NAME	100%	varchar(25)	-	First Name   + 6 more	First Name
LAST_NAME	99.97%	varchar(30)	-	Last name   Last Name   + 3 more	Last Name
DATE_HIRED	100%	timestamp(29)	-	Calendar Date   + 1 more	Date
TERMINATION_DATE	100%	timestamp(29)	-	Termination date   + 2 more	Date
BIRTH_DATE	100%	timestamp(29)	-	Date Of Birth   + 7 more	Date of Birth
GENDER_CODE	100%	smallint(5)	-	Gender   Gender	Indicator
EMAIL	100%	varchar(40)	-	Email   Email Address   + 5 more	Email Address
MANAGER_CODE	99.97%	integer(10)	-	Employee Number   + 4 more	Code
MANAGER	99.97%	varchar(168)	-	Manager   Manager   + 1 more	Person Name

Items per page: 10 | 1-10 of 12 items 1 of 2 pages

Governance artifacts

Business terms

[Employee](#)  
Categories / Knowledge Accelerator for Energy and Utilities / Business Core Vocabulary / Human Resources

Classifications

No classifications added yet.

Related items

Add related items

Relationship	Item name	Item type	Workspace
--------------	-----------	-----------	-----------

About this asset

Description  
No description added yet.

Asset owner  
MS Matthew Sparks

Data quality  
Quality score: 99.99%

Privacy  
Public

Format  
application/x-ibm-rel-table

Asset details  
Size: 193 KB  
Columns: 12  
Rows: 972 (actual)

Primary key  
-

Source  
Connection: [Watson Query - zen](#)  
Connector: IBM Watson Query  
Path: WHATEVER1 / Employee Manager /

Resource key  
4d213c19-78ab-434e-bad7-67337463a0...

Tags  
type:view

Created by  
System, Sep 10, 2024  
Modified by  
Matthew Sparks, Sep 10, 2024



# Data Catalog Demonstration – Dummy Data

## Redacted data and obfuscated email

The screenshot displays a data catalog interface for an asset named 'WHATEVER1.Employee Manager'. The table contains 13 columns: EMPLOYEE\_CODE, FIRST\_NAME, LAST\_NAME, DATE\_HIRED, TERMINATION\_DATE, BIRTH\_DATE, GENDER\_CODE, EMAIL, MANAGER\_CODE, MANAGER, BRANCH\_CODE, and ORGANIZATION\_CODE. The data is redacted, with first and last names shown as 'XXXXXXXXXX'. The email column contains obfuscated addresses, such as 'OAxla@l1cx330.vmo' and 'QBgsnpj@ppqz819.jri'. The interface includes navigation tabs (Overview, Asset, Profile, Lineage, Data quality, Access, Review, Feature group) and a right-hand sidebar with asset details like description, owner (Matthew Sparks), quality score (99.99%), and format (application/x-ibm-rel-table).

EMPLOYEE_CODE	FIRST_NAME	LAST_NAME	DATE_HIRED	TERMINATION_DATE	BIRTH_DATE	GENDER_CODE	EMAIL	MANAGER_CODE	MANAGER	BRANCH_CODE	ORGANIZATION_CODE
10004	XXXXXXXXXX	XXXXXXXXXX	2007-12-11T00:00:00		1966-11-02T00:00:00	0	OAxla@l1cx330.vmo	10149	XXXXXXXXXX	6	6810
10005	XXXXXXXXXX	XXXXXXXXXX	2009-11-24T00:00:00		1980-03-02T00:00:00	1	QBgsnpj@ppqz819.jri	10078	XXXXXXXXXX	6	006
10006	XXXXXXXXXX	XXXXXXXXXX	2012-05-10T00:00:00		1986-07-12T00:00:00	0	WObzalzb@uqjh344.z	10078	XXXXXXXXXX	6	006
10007	XXXXXXXXXX	XXXXXXXXXX	2009-10-09T00:00:00		1979-02-16T00:00:00	0	RRuwnnk@fdug769.hsa	10078	XXXXXXXXXX	6	006
10012	XXXXXXXXXX	XXXXXXXXXX	2011-03-22T00:00:00		1974-11-05T00:00:00	1	IKrtppbgr@wmi268.d	10013	XXXXXXXXXX	13	013
10013	XXXXXXXXXX	XXXXXXXXXX	2006-11-07T00:00:00		1966-08-21T00:00:00	1	XKpuxgy@yweo460.ikt	10461	XXXXXXXXXX	13	6800
10014	XXXXXXXXXX	XXXXXXXXXX	2009-05-12T00:00:00	2012-01-02T00:00:00Z	1962-07-14T00:00:00	0	ZNnpkxncy@cjgf702.nyl	10048	XXXXXXXXXX	17	017
10015	XXXXXXXXXX	XXXXXXXXXX	2013-04-18T00:00:00		1981-06-02T00:00:00	0	XKkqij@wvvp502.fjh	10012	XXXXXXXXXX	13	013
10016	XXXXXXXXXX	XXXXXXXXXX	2010-07-13T00:00:00		1976-06-01T00:00:00	0	EBheitrh@qxaa275.tzs	10701	XXXXXXXXXX	14	014
10016	XXXXXXXXXX	XXXXXXXXXX	2010-07-13T00:00:00		1976-06-01T00:00:00	0	EBheitrh@qxaa275.tzs	10017	XXXXXXXXXX	14	014
10017	XXXXXXXXXX	XXXXXXXXXX	2010-12-20T00:00:00		1969-04-05T00:00:00	0	HGouffn@hluh021.mfz	10013	XXXXXXXXXX	14	014
10018	XXXXXXXXXX	XXXXXXXXXX	2009-02-18T00:00:00		1955-02-11T00:00:00	0	PDdraqm@ccyo765.doc	10004	XXXXXXXXXX	14	6810
10019	XXXXXXXXXX	XXXXXXXXXX	2012-06-27T00:00:00		1982-02-17T00:00:00	0	WWrudbgpkd@elcm46	10020	XXXXXXXXXX	7	007
10020	XXXXXXXXXX	XXXXXXXXXX	2008-03-25T00:00:00		1966-07-11T00:00:00	1	PMnqesgsoi@fafb267.z	10689	XXXXXXXXXX	7	007
10020	XXXXXXXXXX	XXXXXXXXXX	2008-03-25T00:00:00		1966-07-11T00:00:00	1	PMnqesgsoi@fafb267.z	10486	XXXXXXXXXX	7	007
10021	XXXXXXXXXX	XXXXXXXXXX	2009-12-15T00:00:00		1964-09-25T00:00:00	1	YSlibz@fmyz217.pyz	10020	XXXXXXXXXX	7	007
10022	XXXXXXXXXX	XXXXXXXXXX	2009-08-01T00:00:00		1986-06-28T00:00:00	1	Ymisp-Nonvluoxl@gf	10025	XXXXXXXXXX	9	009
10023	XXXXXXXXXX	XXXXXXXXXX	2008-09-09T00:00:00		1975-09-03T00:00:00	1	JZqtjrt@smmj490.xwf	10025	XXXXXXXXXX	9	009
10024	XXXXXXXXXX	XXXXXXXXXX	2011-04-13T00:00:00		1988-01-26T00:00:00	0	UUGzposoga@bxck675.i	10673	XXXXXXXXXX	9	5820
10024	XXXXXXXXXX	XXXXXXXXXX	2011-04-13T00:00:00		1988-01-26T00:00:00	0	UUGzposoga@bxck675.i	10269	XXXXXXXXXX	9	5820
10025	XXXXXXXXXX	XXXXXXXXXX	2009-03-31T00:00:00		1969-03-07T00:00:00	0	WGrsflqv@gcoo712.eih	10679	XXXXXXXXXX	9	009
10025	XXXXXXXXXX	XXXXXXXXXX	2009-03-31T00:00:00		1969-03-07T00:00:00	0	WGrsflqv@gcoo712.eih	10143	XXXXXXXXXX	9	009
10026	XXXXXXXXXX	XXXXXXXXXX	2011-07-05T00:00:00		1979-03-25T00:00:00	1	PHmrfcft@ykw903.quc	10025	XXXXXXXXXX	9	009
10027	XXXXXXXXXX	XXXXXXXXXX	2008-12-09T00:00:00		1977-04-24T00:00:00	0	CRknjkaf@piwj365.lew	10030	XXXXXXXXXX	15	015
10028	XXXXXXXXXX	XXXXXXXXXX	2011-10-27T00:00:00		1984-08-30T00:00:00	0	Ooesymk@hpti146.mu	10030	XXXXXXXXXX	15	015
10029	XXXXXXXXXX	XXXXXXXXXX	2007-01-17T00:00:00		1979-04-05T00:00:00	1	BFGfmyspseseis@vksd	10030	XXXXXXXXXX	15	015



# Data Catalog Demonstration – Dummy Data

Catalogs > Default Catalog >

Data  
WHATEVER1.Employee Manager

Remove [Add to project](#) +

Overview Asset Profile Lineage **Data quality** Access Review Feature group

**Asset score**  
Last updated: Sep 10, 2024, 10:49 AM

99.9%

**Dimension scores** Trend: 90 days Sort by: Name

- Completeness 99.9%
- Consistency 99.9%
- Validity 100.0%

^ Data quality checks Checks Columns

Find data quality checks by name

Name & logic	Type	Dimension	Focus & percentage of data with issues	Data checked & issues found	Sampling	Score	Contributes to overall score	Last checked
Format violations	Profiling	Validity	Table 0.0% of data	972 records 0 issues	—	100.0%	<input type="checkbox"/>	Sep 10, 2024, 10:49 AM
Unexpected missing values	Profiling	Completeness	Table 0.1% of data	972 records 2 issues	—	99.9%	<input type="checkbox"/>	Sep 10, 2024, 10:49 AM
Inconsistent representation of missing values	Profiling	Consistency	Table 0.0% of data	972 records 0 issues	—	100.0%	<input type="checkbox"/>	Sep 10, 2024, 10:49 AM
Data class violations	Profiling	Validity	Table 0.0% of data	972 records 0 issues	—	100.0%	<input type="checkbox"/>	Sep 10, 2024, 10:49 AM
Suspect values	Profiling	Consistency	Table 0.0% of data	972 records 0 issues	—	100.0%	<input type="checkbox"/>	Sep 10, 2024, 10:49 AM
Values out of range	Profiling	Validity	Table 0.0% of data	972 records 0 issues	—	100.0%	<input type="checkbox"/>	Sep 10, 2024, 10:49 AM
Data type violations	Profiling	Validity	Table 0.0% of data	972 records 0 issues	—	100.0%	<input type="checkbox"/>	Sep 10, 2024, 10:49 AM
Inconsistent capitalization	Profiling	Consistency	Table 0.1% of data	972 records 1 issue	—	99.9%	<input type="checkbox"/>	Sep 10, 2024, 10:49 AM

**About this asset**

**Description**  
No description added yet.

**Asset owner**  
MS Matthew Sparks

**Data quality**  
Quality score: 99.99%

**Privacy**  
Public

**Format**  
application/x-ibm-rel-table

**Asset details**  
Size: 193 KB  
Columns: 12  
Rows: 972 (actual)

**Primary key**  
-

**Source**  
Connection: [Watson Query - zen](#)  
Connector: IBM Watson Query  
Path: WHATEVER1 / Employee Manager /

**Resource key**  
4d213c19-78ab-434e-bad7-67337463e0...

**Tags**  
[typeview](#)

Created by System, Sep 10, 2024  
Modified by Matthew Sparks, Sep 10, 2024





# Unlocking the Toolset

## ➤ **Machine Learning**

- Deep learning platform that data scientists can use to build, train, and deploy deep learning models.

## ➤ **AI Model Management**

- Integrate Development Environment (IDE) to build, run and manage AI models.

## ➤ **Reference Data Management (RDM)**

- Centrally manage and distribute reference data across the enterprise.

## ➤ **Decision Optimization**

- Simulation, optimization, and operations research for large-scale dynamic systems.



# Unlocking the Toolset

## Business Automation Tools

### ➤ **Workflow Builder**

- Automate case and process workflows to reduce or eliminate time-consuming tasks.

### ➤ **Decision Management**

- Make customized decisions by creating and managing business rules independently from applications and processes.

### ➤ **Process Mining**

- Model, analyze, monitor, and optimize overall business processes and proactively identify cases in need of attention.

### ➤ **Robotic Process Automation (RPA)**

- Automate processes at scale with software robots that act on AI insights to complete tasks with no lag time.



# Unlocking the Toolset

## Integration Tools

### ➤ Enterprise API Management

- Create, manage, secure and socialize APIs.

### ➤ Message Queue

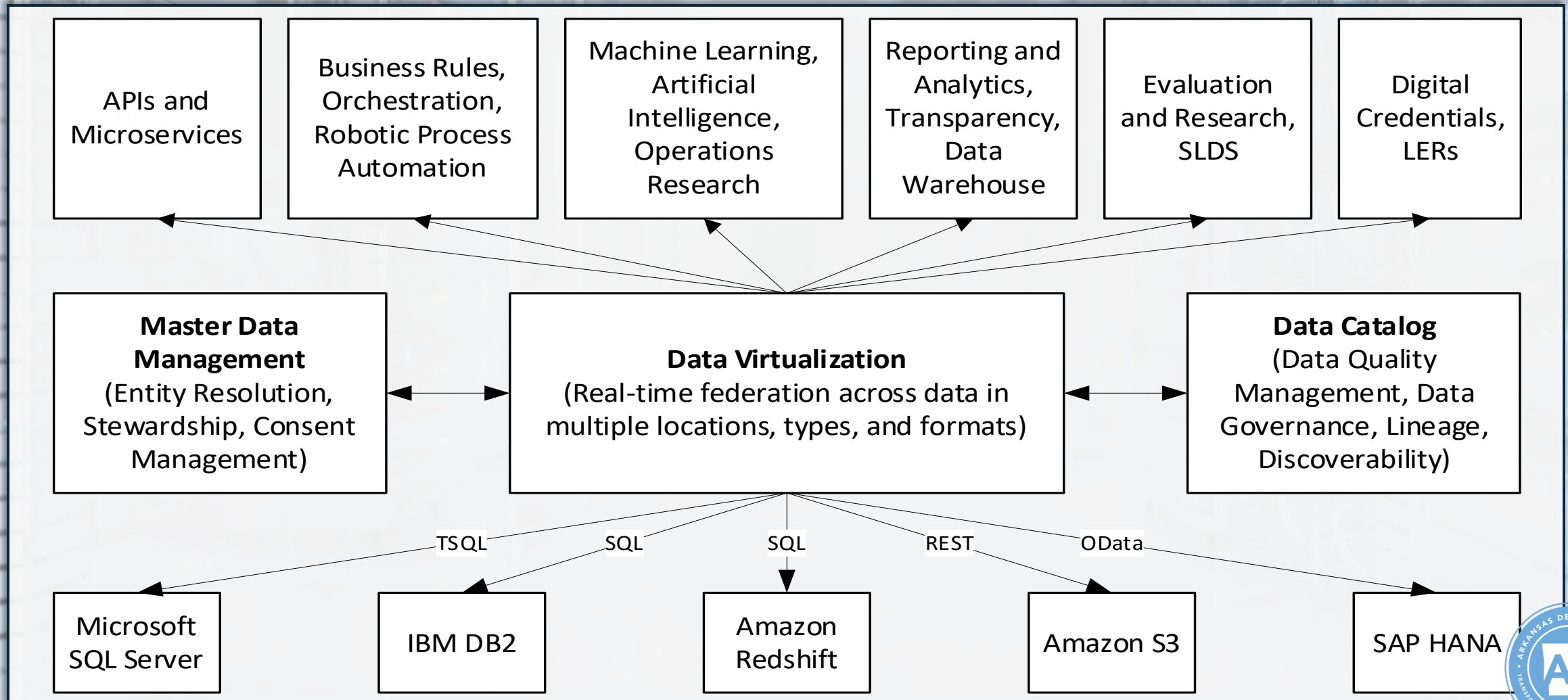
- Supports the exchange of information between applications, systems, services and files by sending and receiving message data via messaging queues.

### ➤ Big Data Transfer Tool

- Data transfer software for moving amounts of data quickly and securely, regardless of network conditions.



# Unlocking the Tool Set



# Questions and Open Discussion



# Objectives of the Arkansas Data Hub

The core objectives identified in the feasibility study informed by Act 1282 of 2015, the gap analysis of agency needs, and the open data and transparency task force include:

1. Enable openness, transparency, and pervasive, **self-service data access and delivery**.
2. **Share data** to enhance its value while enforcing privacy and security (Sharing)
3. Support **data-driven decision making** and analytic maturity through development and support of analytic skills and shared services.
4. **Integrate data** for improved cross-agency analysis and **reduced duplication of data and efforts**
5. Enable **real-time assessment, support, alignment, and automation** of decisions, programs, and resources.
6. **Manage enterprise data** as a state asset.

