

Personal and Sensitive Data Auditing including Data Security Plans

- Visible offers a range of products that address multiple areas including Enterprise Architecture, Data and Process Modeling, Data Governance, Self Service Data Discovery and Configuration Management.
- View more about Visible Systems Corporation
<https://www.visible-systems.com/>
- Please feel free to contact me directly at
mcesino@visible-systems.com
 - Michael Cesino



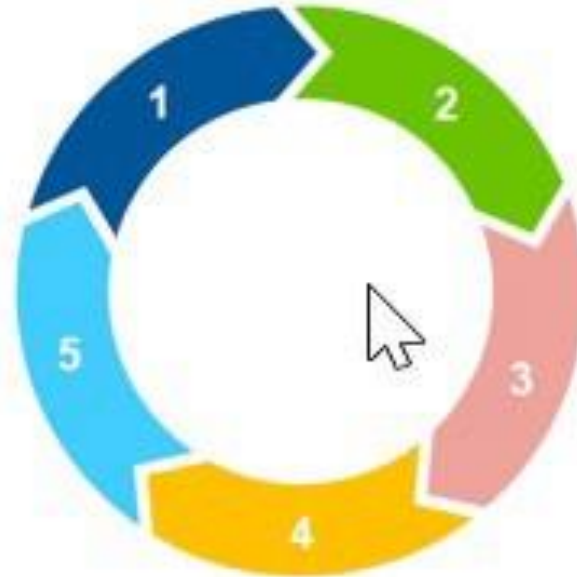
Manage sensitive data throughout its lifecycle

Collection

- Acquisition of data about the data subject

Data deletion and blocking of access

- **Blocking:** Labelling of retained personal data so as to restrict its further processing or use
- **Deletion:** Making personal data unrecognizable



Storage

- The entry, recording, and/or preservation of personal data on a storage medium so that they can be processed or used again

Analysis

- Alterations to the substance of retained personal data

Transfer

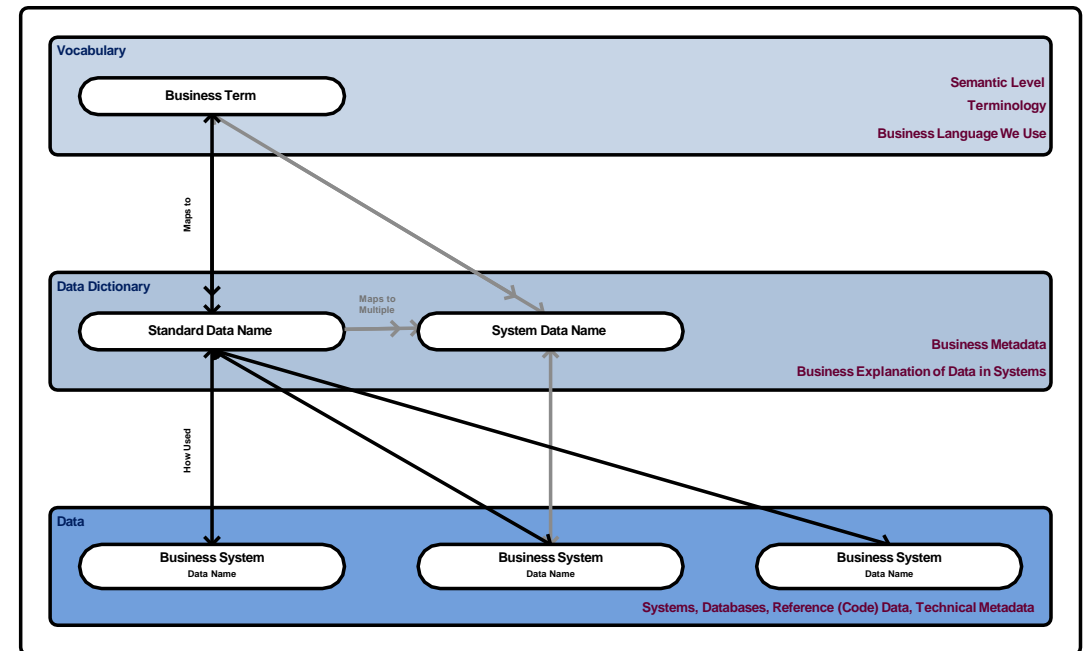
- Disclosure or transfer of personal data to a third party

Here are a few examples of what you can do when running a sensitive data check using our software:

- **Readily examine all representations of sensitive data in** your enterprise architecture, system design, system architecture and configuration documentation; change control records; other relevant documents or records.
- **Find out who** the personnel are responsible for establishing the systems; personnel with responsibilities for updating the systems; and personnel with information security responsibilities for systems and networks.
- **Understand how to** organize processes for managing baseline configurations; for developing and documenting an inventory of system components; and for updating inventory of system components.

Visible provides you with a Business Glossary to standardize terms across requirements, systems and applications.

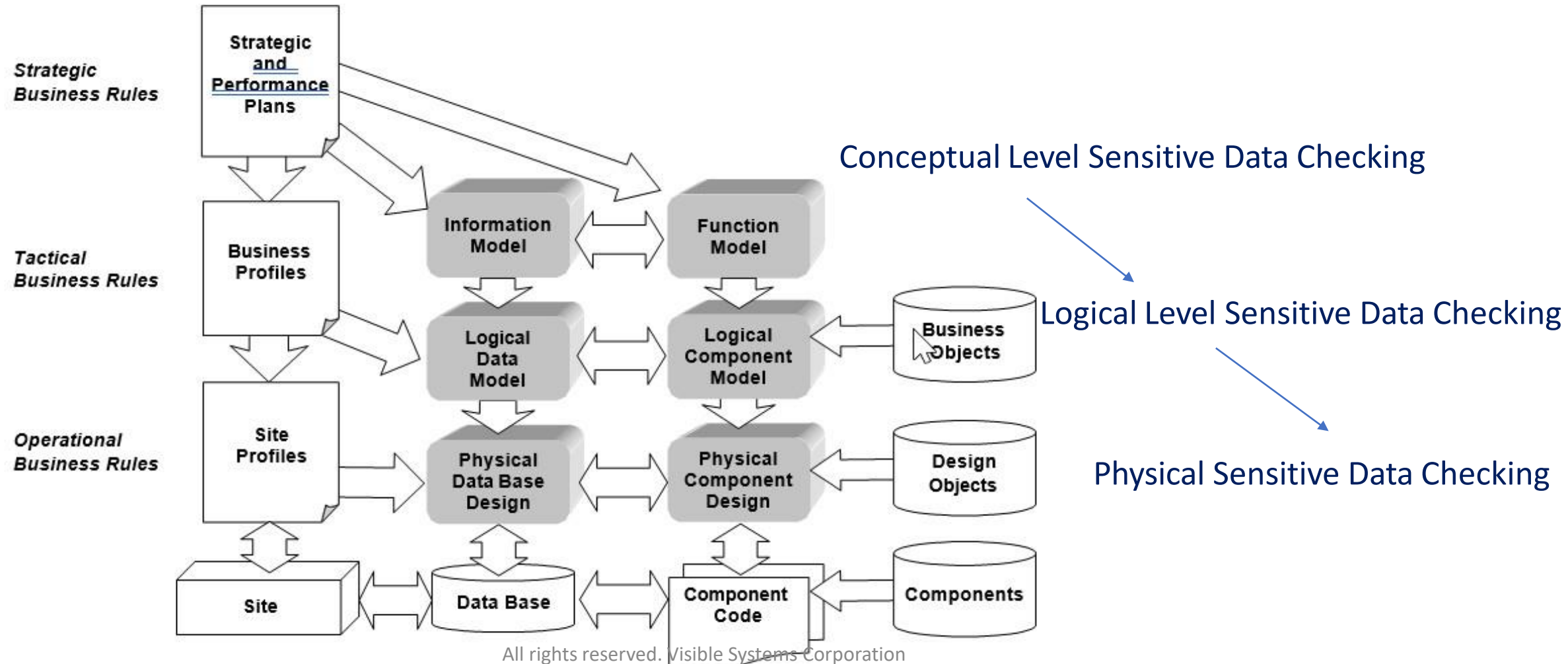
- Three-Tiers of Metadata
 - Business Glossary - Terminology
 - Data Dictionary – Business Explanation of Data in Systems
 - Data – Systems, Databases, Physical Data
 - Business Terminology and Definition
 - Data Definitions
 - Data Logical Attributes
 - Data Physical Attributes
 - Business Rules
 - Value Domains



Materials on this slide credited to
Robert S. Seiner – KIKConsulting.com
The Home of Non-Invasive Data Governance™

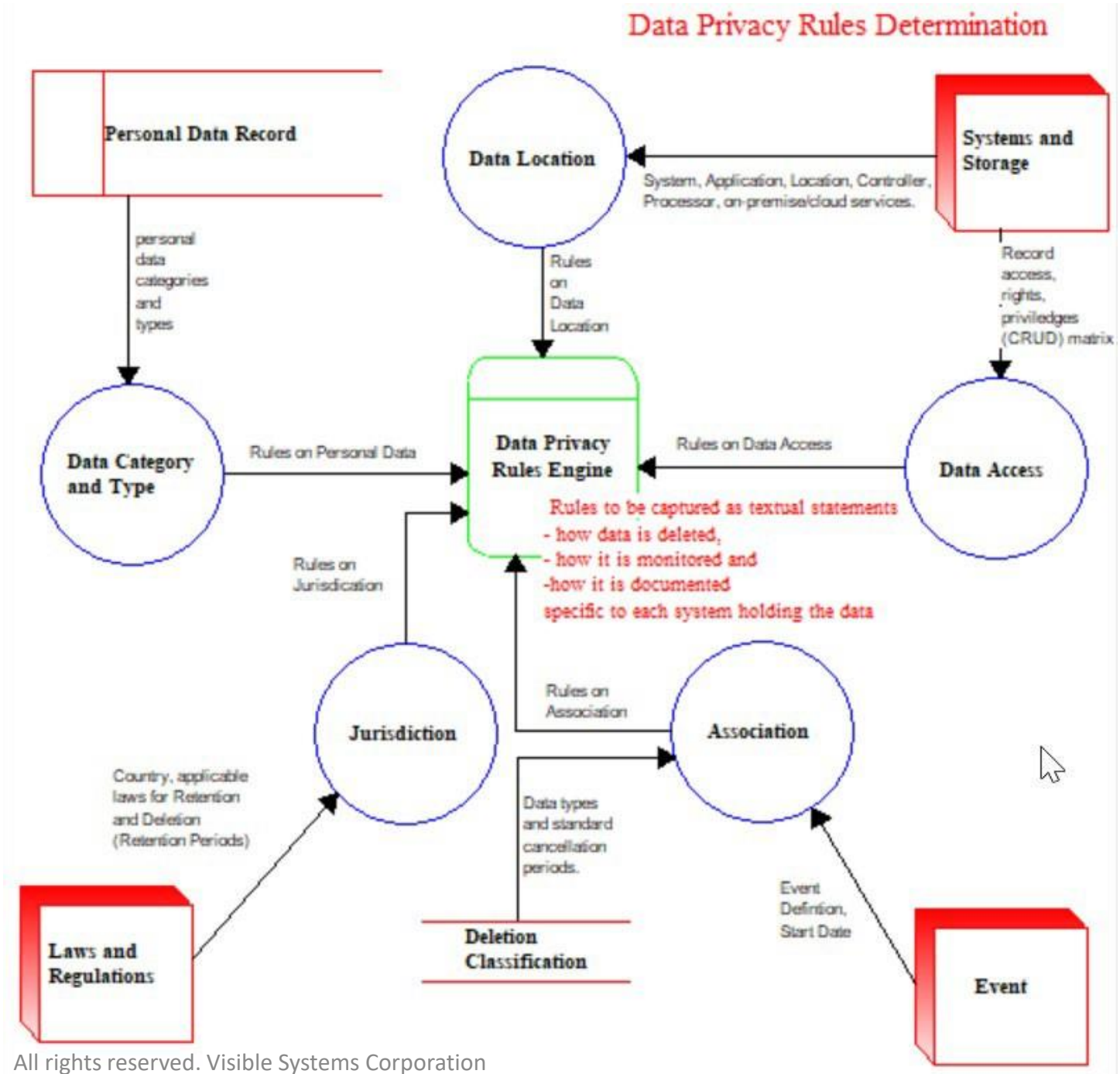
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Full Life Cycle Traceability – Systems through Applications.



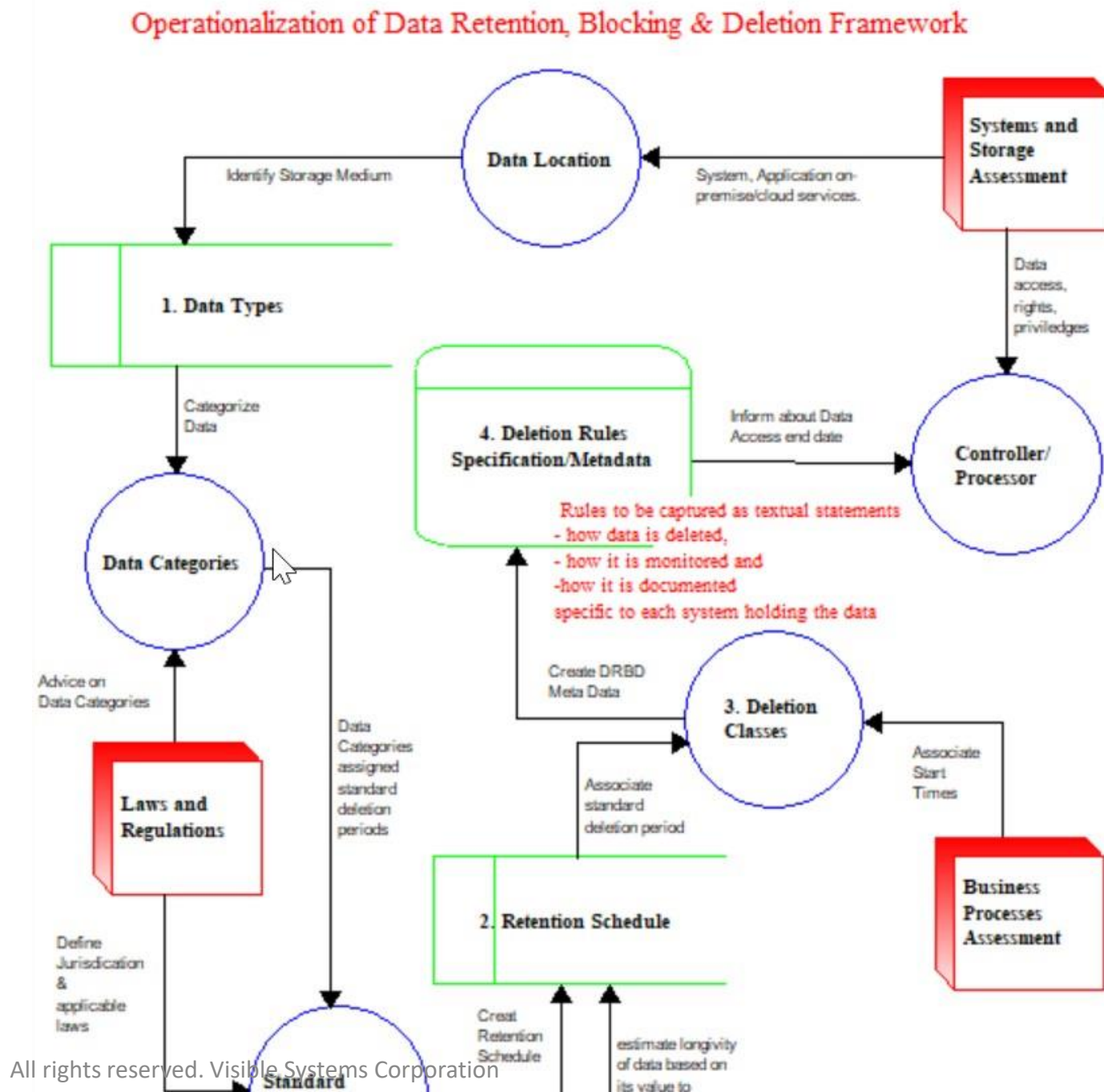
Graphically show external sources and their impact on how you will need to manage sensitive data:

Capture your Data Privacy Rules based on Local Jurisdiction Regulations, Categories, and Types of Data.

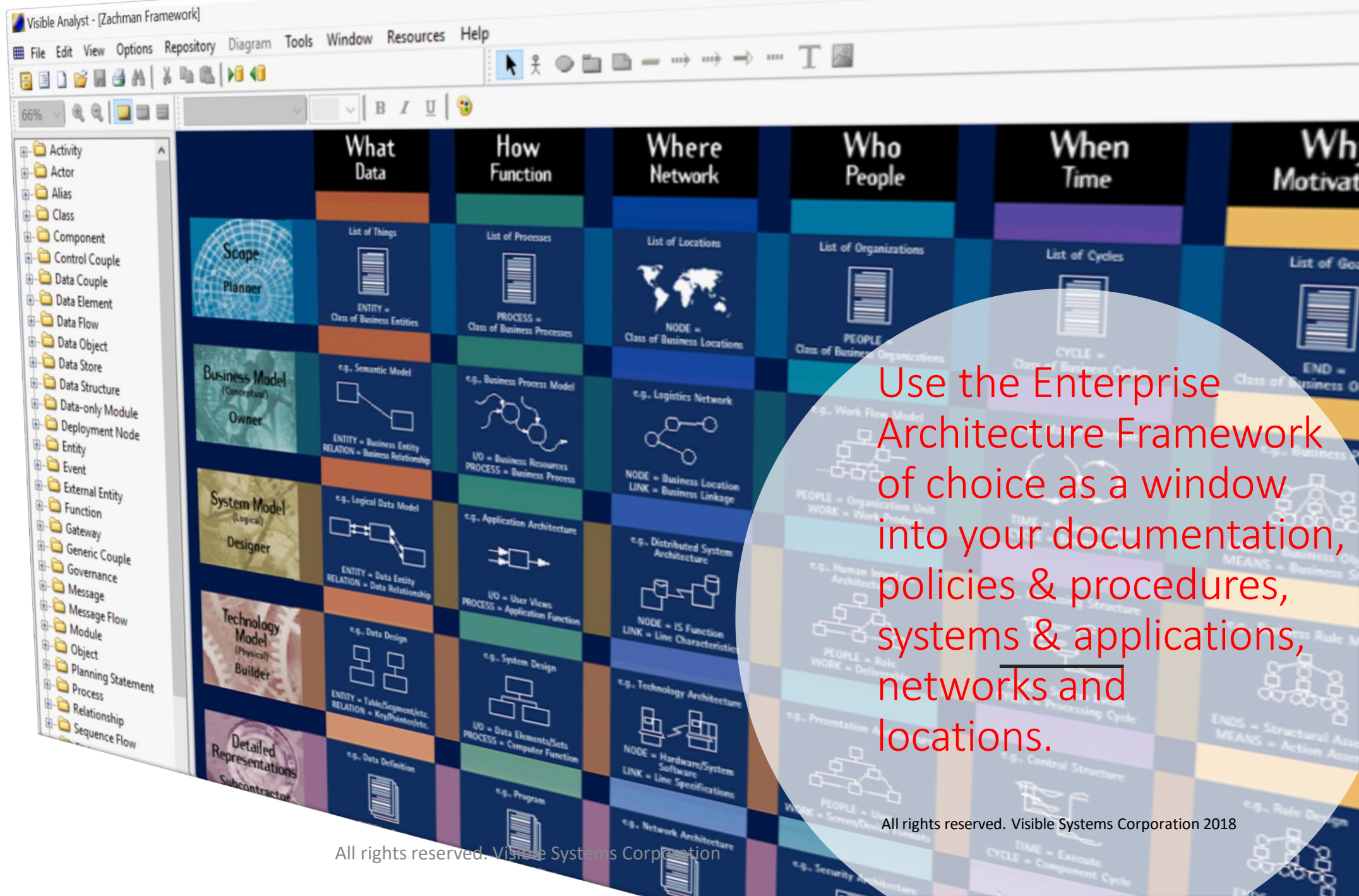


Graphically show the flow of sensitive data throughout your functions and each one of your processes.

You may also want to represent your Data Retention, Blocking /Deletion Framework...



Let's take a look at one example using the Zachman Enterprise Architecture Framework. In this example, we will click on a cell and look at Issuance of Drivers Licenses to Applicants.



Use the Enterprise Architecture Framework of choice as a window into your documentation, policies & procedures, systems & applications, networks and locations.

Visible Analyst - [Zachman Framework]

File Edit View Options Repository Diagram Tools Window Resources Help

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Activity Actor Alias Class Component Control Couple Data Couple Data Element Data Flow Data Object Data Store Data Structure Data-only Module Deployment Node Entity Event External Entity Function Gateway Generic Couple Governance Message Message Flow Module Object Planning Statement Process Relationship Sequence Flow State

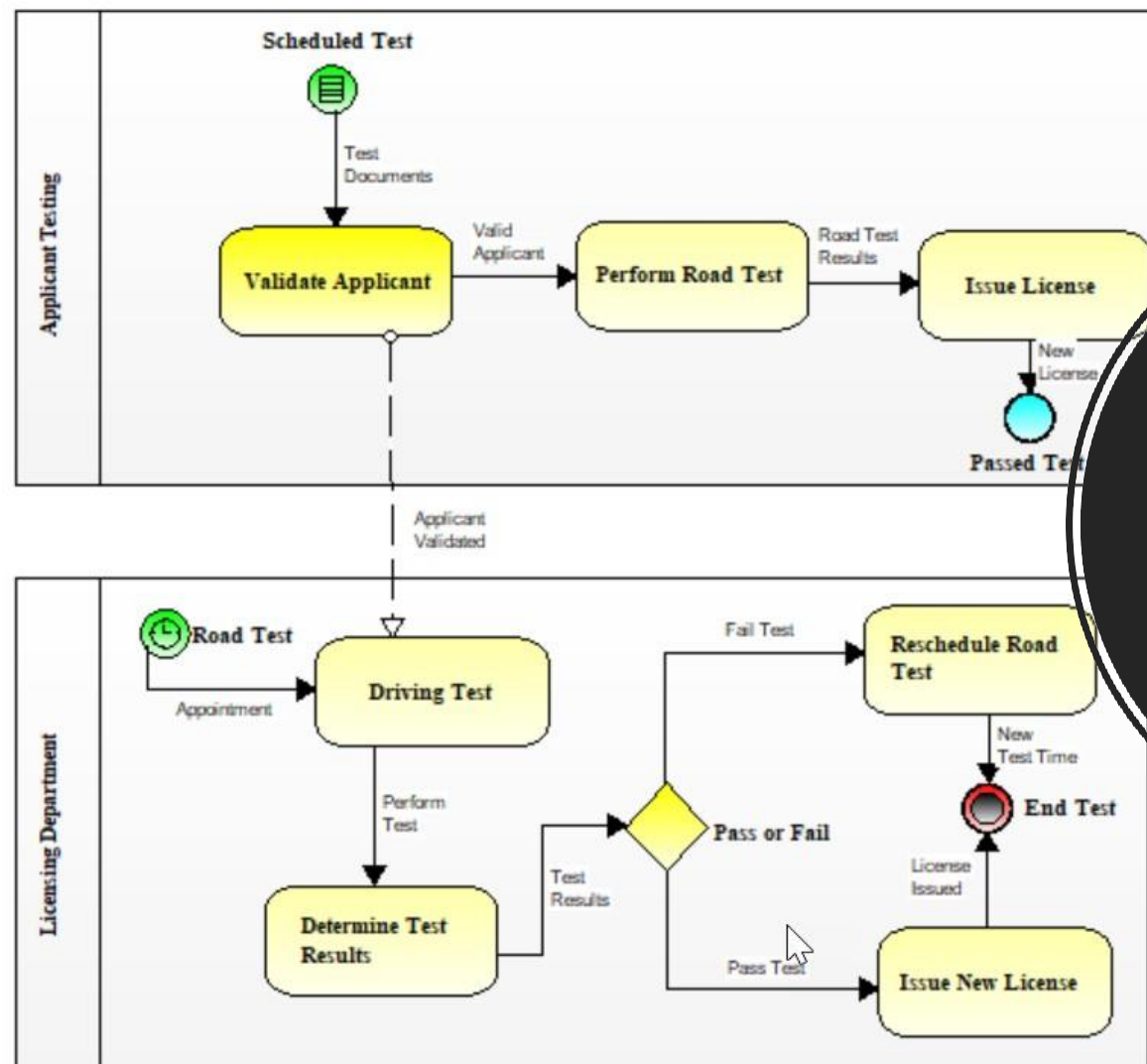
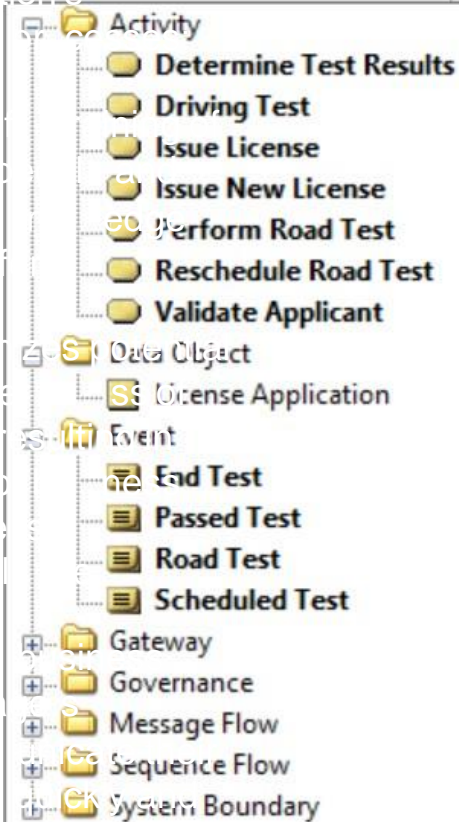
	What Data	How Function	Where Network	Who People	When Time	Why Motivation
Scope Planner	List of Things ENTITY = Class of Business Entities	List of Processes PROCESS = Class of Business Processes	List of Locations NODE = Class of Business Locations	List of Organizations PEOPLE = Class of Business Organizations	List of Cycles CYCLE = Class of Business Cycles	List of Goals END = Class of Business Objectives
Business Model (Conceptual) Owner	e.g., Semantic Model ENTITY = Business Entity RELATION = Business Relationship	e.g., Business Process I/O = Business Resources PROCESS = Business Process	e.g., Business Network NODE = Business Location LINK = Business Linkage	e.g., Work Flow Model PEOPLE = Organization Unit WORK = Work Product	e.g., Master Schedule TIME = Business Event CYCLE = Business Cycle	e.g., Business Plan ENDS = Business Objective MEANS = Business Strategy
System Model (Logical) Designer	e.g., Logical Data Model ENTITY = Data Entity RELATION = Data Relationship	e.g., Application Architecture I/O = User Views PROCESS = Application Function	e.g., Distributed System Architecture NODE = IS Function LINK = Line Characteristics	e.g., Human Interface Architecture PEOPLE = Role WORK = Deliverable	e.g., Processing Structure TIME = System Event CYCLE = Processing Cycle	e.g., Business Rule Model ENDS = Structural Assertion MEANS = Action Assertion
Technology Model (Physical) Builder	e.g., Data Design ENTITY = Table/Segment/etc. RELATION = Key/Pointer/etc.					
Detailed Representations Subcontractor	e.g., Data Definition ENTITY = Field RELATION = Address					

Open Framework Cell Object Type - Design Logical Data Model

Class Model
Entity Relationship Model

Name	Modified	By
Administer Road Test - Data Model View	11/1/2017 7:36:29 PM	supervisor
Drivers License	10/3/2016 11:08:11 PM	
Driving School View	11/4/2008 1:51:29 AM	
Generated Process View ERD	10/3/2016 11:08:07 PM	
Issue License ERD	11/17/2017 8:45:34 AM	supervisor
Issue License Process - Data Model View	11/1/2017 7:38:55 PM	supervisor
Issue License Process View of ERD	11/27/2017 7:58:37 AM	supervisor

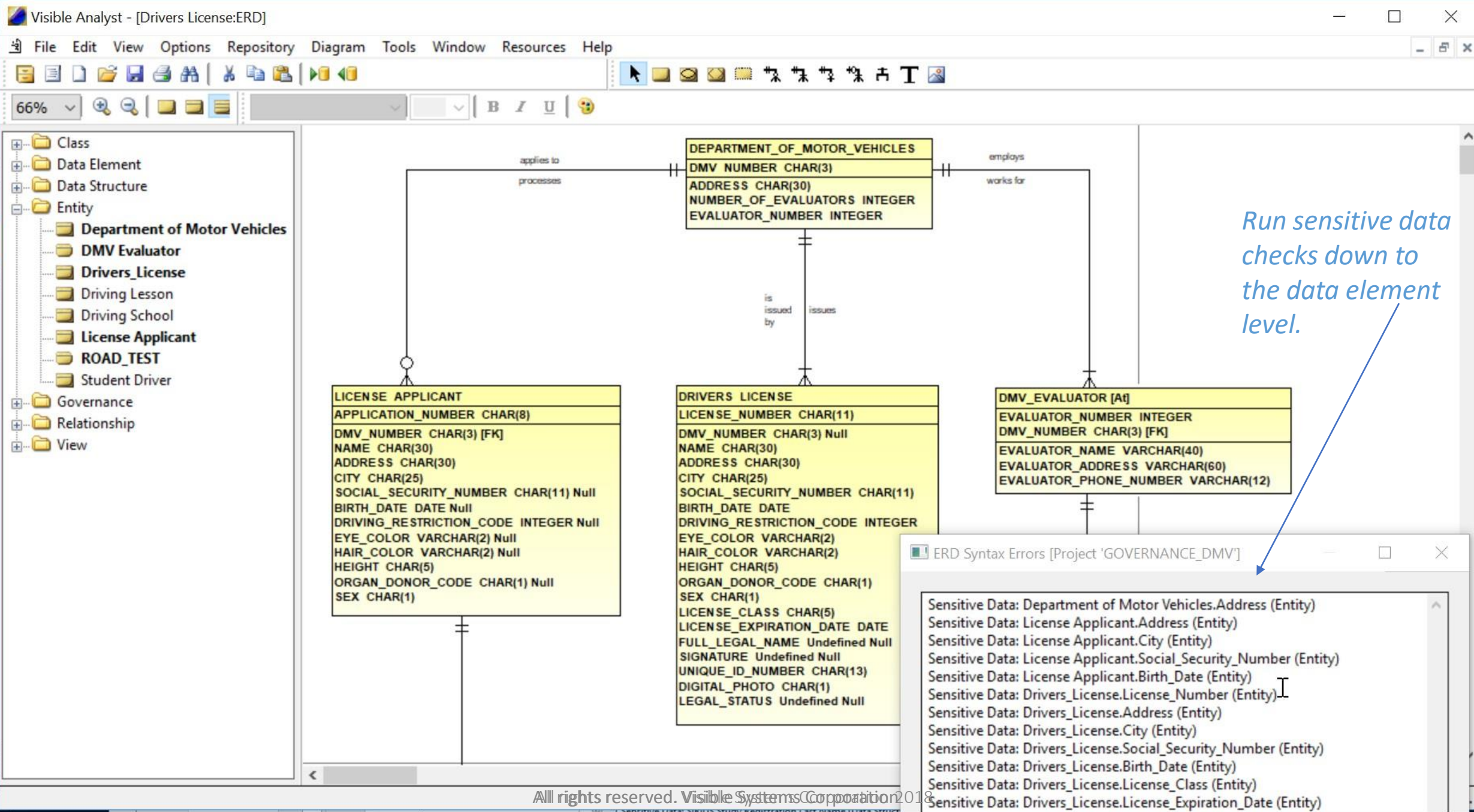
Let's now select one process "Issue A Driver License" and run a sensitivity check on the data used in that particular process.



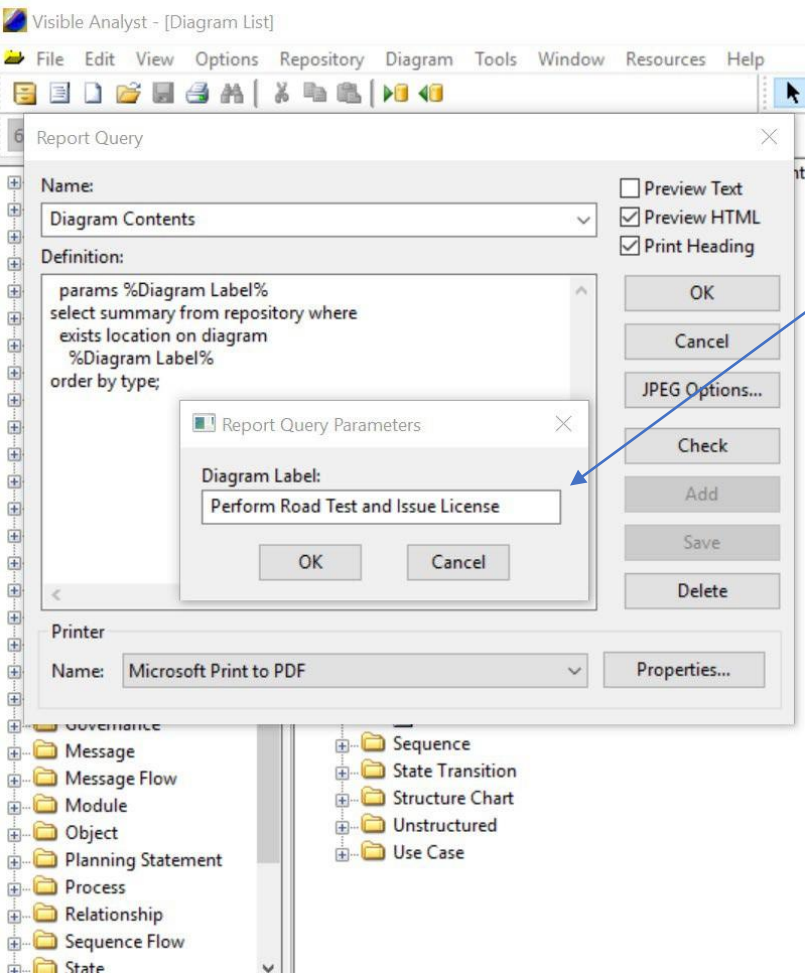
You are able to see what data is used for Issuing a Driver's License

By clicking on License or Applicant, you can now see the underlying data model for the process of Issuing a Driver License.

Notice Social Security Number, Birth Data and other data used in Issuing a Driver's License is displayed as the sensitive data we need to control.



Use the Query and Reports option to generate detailed audits. You can use column *begins with* or column *contains* syntax to search for sensitive data strings, for example *name begins with "ssn"*.



Run custom queries and generate reports to a PDF file or generate as a HTML file.

Our query generates a report listing all activities within the Licensing Department where sensitive data is being referenced.

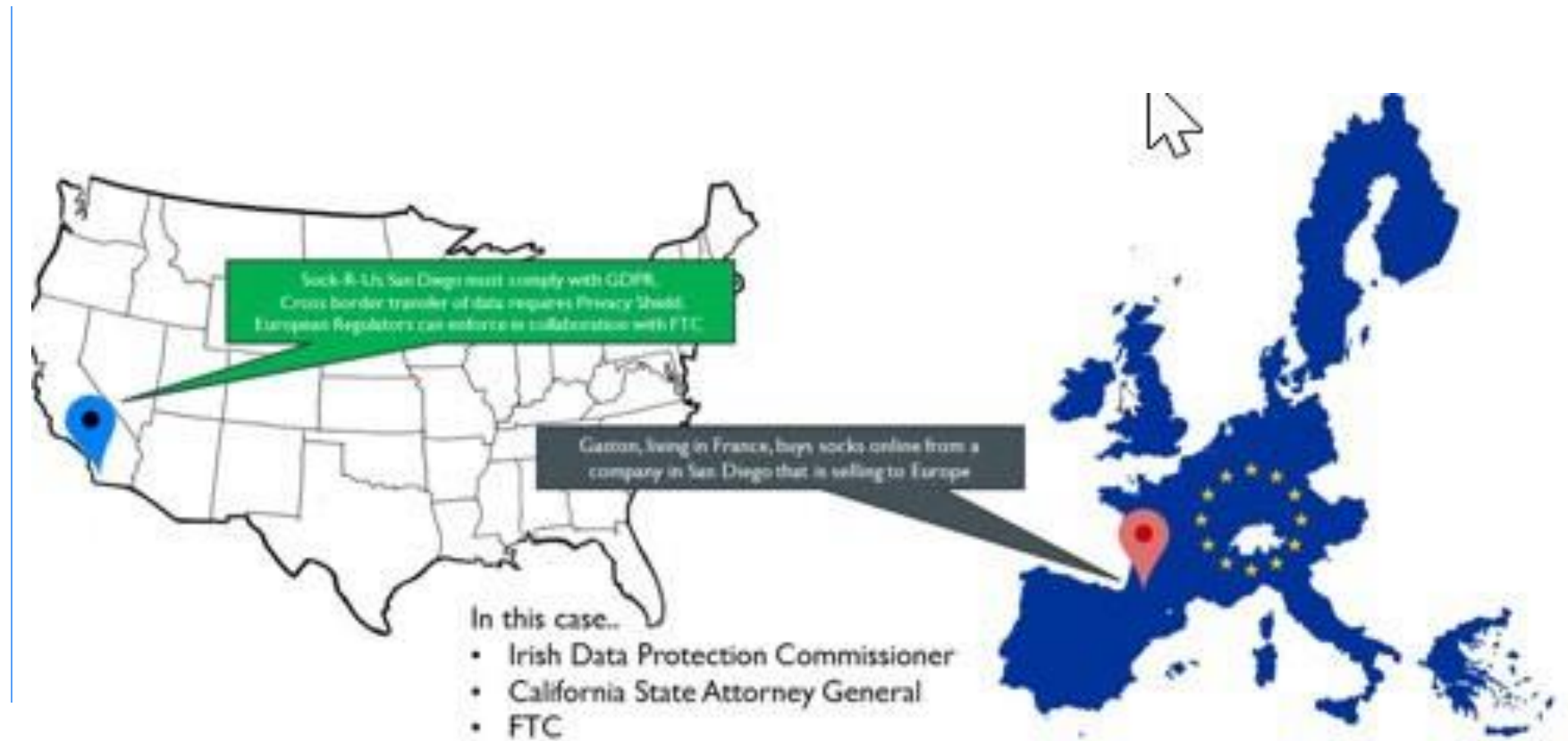
Date: 1/24/2018
Time: 9:05:44 AM
Project: GOVERNANCE_DMV
Page: 1
Summary Listing -- by Type

Applicant Testing	System Boundary
Licensing Department	System Boundary
Determine Test Results	Activity
Driving Test	Activity
Issue License	Activity
Issue New License	Activity
Perform Road Test	Activity
Reschedule Road Test	Activity
Validate Applicant	Activity
Description:	
The Applicant requirements that have to be met before a Driver's License can be issued.	
Applicant Validated	Message Flow

In the interest of full disclosure

Before you think as a US company you are not impacted by GDPR. Think again!

For example, as a US manufacturer, if you export components, parts, assemblies or products to the European Union then you are subject to GDPR!



Install Data Protections across data queries and your applications.

Once Sensitive and Personal Data is identified, you are able to implement protections across your applications software.

Query data and run applications risk-free using Differential Privacy

- Visible Sight contains a query analysis and rewriting framework to enforce differential privacy for general-purpose SQL queries.
- The rewriting engine can automatically transform an input query into an intrinsically private query which embeds a differential privacy mechanism in the query directly; the transformed query enforces differential privacy on its results and can be executed on any standard SQL database.
- The rewriting framework is built on a robust dataflow analyses engine for SQL queries. This framework provides an abstract representation of queries, plus several kinds of built-in dataflow analyses tailored to this representation.

The Data Security Audit Trail

Full life cycle data security audit trail from Collection, through Storage, Analysis and to Transfer of the data across your applications.

Once we have
identified
Sensitive Data

Visible Analyst - [Strategic Planning]

File Edit View Options Repository Diagram

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Name	Type	Definition
<input checked="" type="checkbox"/> Address	Geographic	%address%
<input checked="" type="checkbox"/> Birth Date	Date	%birth%
<input checked="" type="checkbox"/> City	Geographic	%city%
<input checked="" type="checkbox"/> Credit Card Number	Financial	%credit%
<input checked="" type="checkbox"/> CV	Name	%CV%
<input checked="" type="checkbox"/> Drivers License Number	Number	%license%
<input checked="" type="checkbox"/> Email Address	Email	%email%
<input checked="" type="checkbox"/> First Name	Name	%first%
<input checked="" type="checkbox"/> Identification Number	Number	%IPIN%
<input checked="" type="checkbox"/> Last Name	Name	%last%
<input checked="" type="checkbox"/> Passport	Name	%Passport%

Add... Change... Remove OK Cancel

ERD Syntax Errors [Project 'BAYER DRBD PROJECT REV6']

Sensitive Data: APPLICATION.CV (Entity)
Sensitive Data: CANDIDATE_MASTER_DATA.CV (Entity)
Sensitive Data: EMPLOYEE_MASTER_DATA.PID (Entity)
Sensitive Data: EMPLOYEE_MASTER_DATA.CWID (Entity)
Sensitive Data: EMPLOYEE_POSITION.salary_grade (Entity)
Sensitive Data: EMPLOYMENT_CONTRACT.IPIN (Entity)
Sensitive Data: PRIVATE_MASTER_DATA.social_security_information (Entity)
Sensitive Data: PRIVATE_MASTER_DATA.passport-national_id (Entity)
Sensitive Data: SIRIUS Product Request.Address Line (Data Structure)
Sensitive Data: SIRIUS Product Request.City (Data Structure)
Sensitive Data: SIRIUS Study Activation.Address Line (Data Structure)
Sensitive Data: SIRIUS Study Activation.City (Data Structure)
Sensitive Data: SIRIUS Study Registration.Address Line (Data Structure)
Sensitive Data: SIRIUS Study Registration.City (Data Structure)
Sensitive Data: SIRIUS Study Registration.State (Data Structure)
Sensitive Data: SIRIUS Study Registration.First Name (Data Structure)
Sensitive Data: SIRIUS Study Registration.Last Name (Data Structure)

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DEVELOP A DATA SECURITY PLAN

Develop a data security plan which describes how you plan to meet the requirements.




We can turn
our attention
to developing
a Data
Security Plan

The data security plan describes:

- The data boundary
- The operational environment
- How the security requirements are implemented
- The relationships with or connections to other data.

The data security plan and plan of action describing how unimplemented security requirements will be met and mitigations will be implemented may be documented in any chosen format.

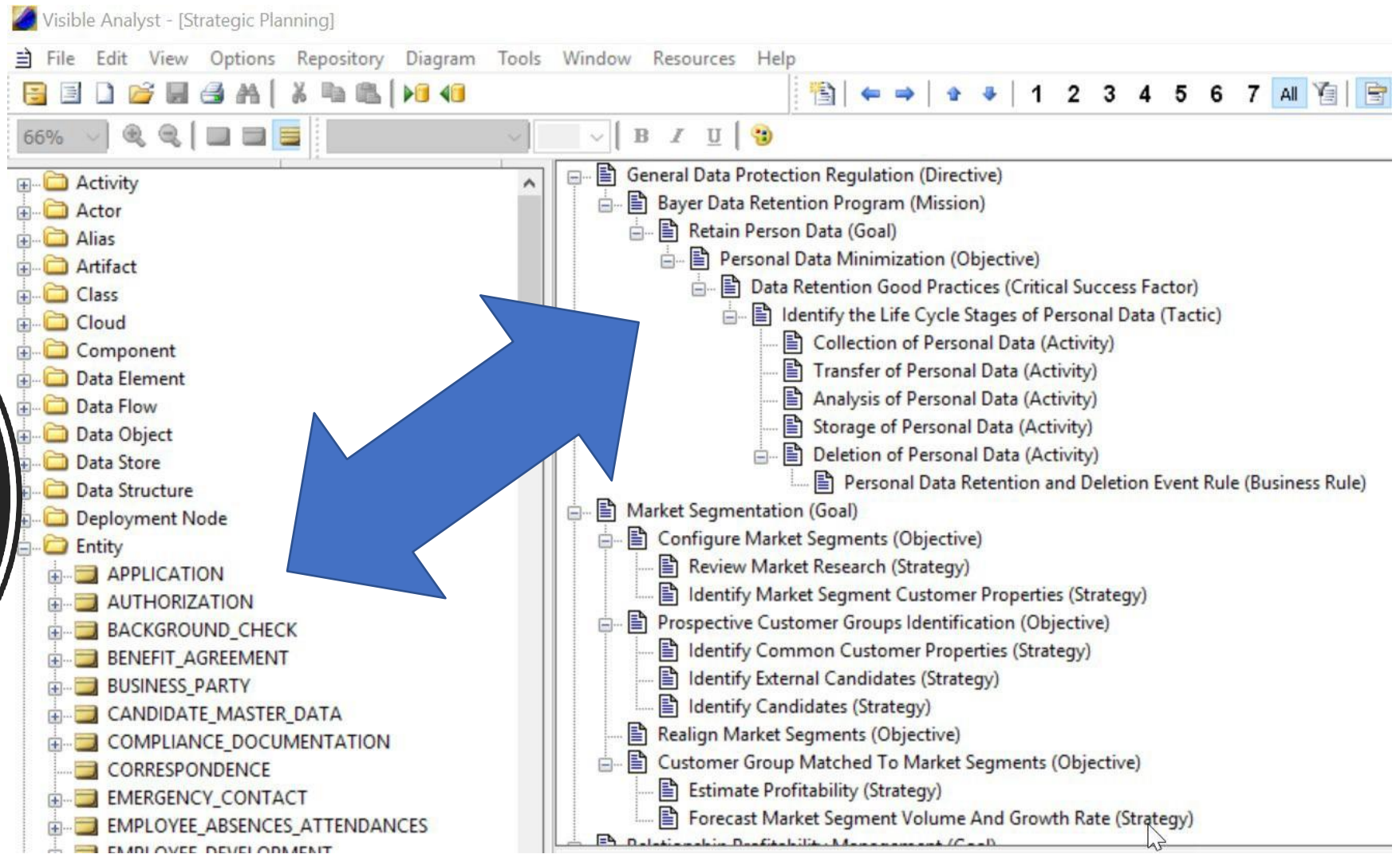


What is the
scope of a
Data Security
Plan?

•**Scope of Impact:**

- Scope of the procedure:
 - Purely internal processes;
 - Purely external processes (e.g., outsourced vendor processes); or
 - Scope covers both internal processes and external ones.
- Affects the potential impact from the process, which can be one or more of the following:
 - System;
 - Application;
 - Process
 - Team;
 - Department;
 - User;
 - Client;
 - Vendor;
 - Geographic region; or
 - The entire company

Define
Directives,
Mission,
Objectives,
Strategy, and
Goals



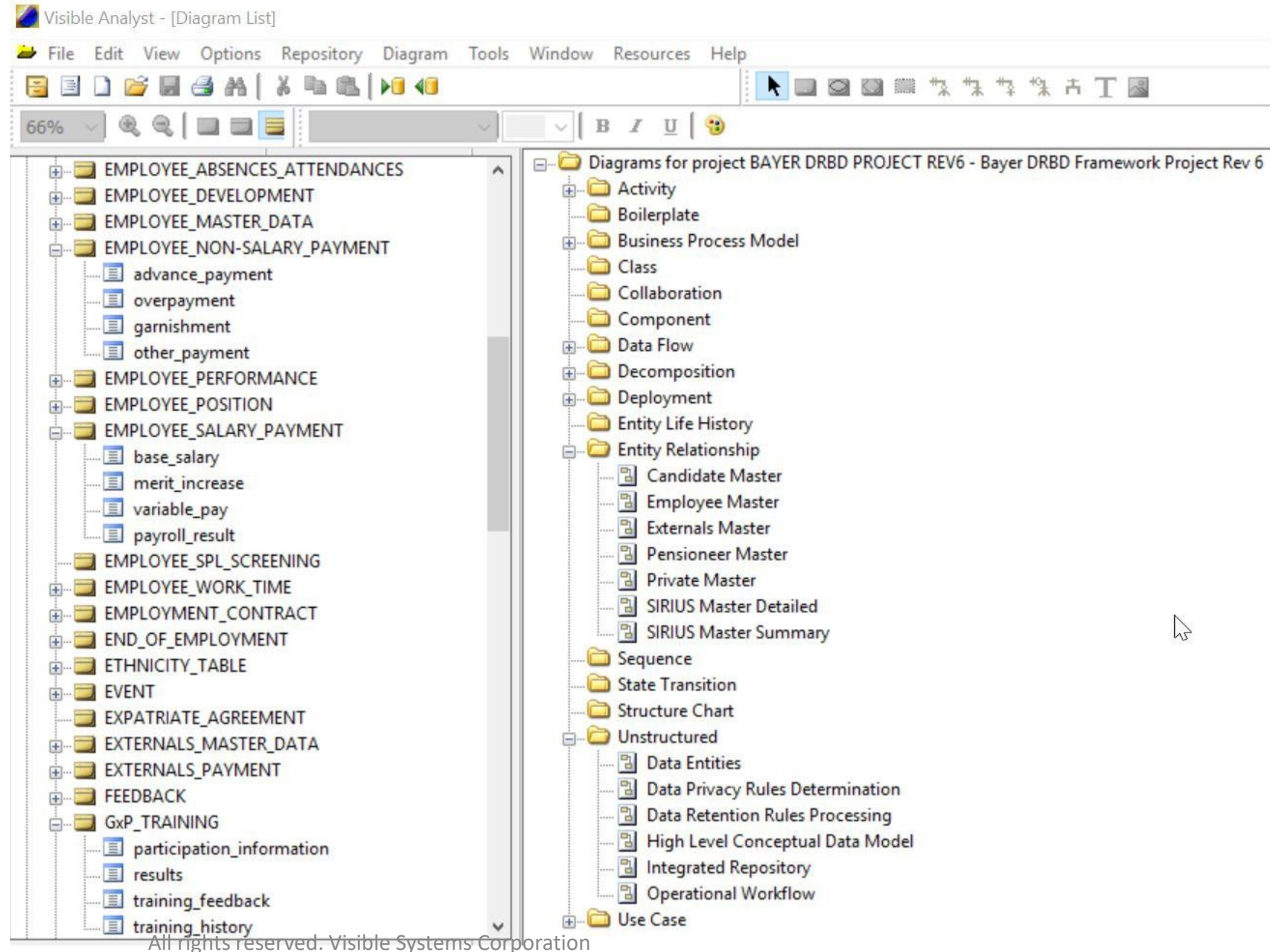
By conducting
automated
searches
across
databases ...

PRIVATE MASTER DATA	
LEGAL_NAME	Undefined Null
PRIVATE_COMMUNICATION_DATA	Undefined Null
LIVING_ADDRESS	Undefined Null
MAILING_ADDRESS	Undefined Null
BANK_ACCOUNT	Undefined Null
SOCIAL_SECURITY_INFORMATION	Undefined Null
TAX_INFORMATION	Undefined Null
WORK_PERMIT	Undefined Null
GENDER	Undefined Null
DATE_OF_BIRTH	Undefined Null
NATIONALITY_CITIZENSHIP	Undefined Null
PASSPORT_NATIONAL_ID	Undefined Null
DIVERSITY	Undefined Null
RELATIVES	Undefined Null
FAMILY_STATUS	Undefined Null

CANDIDATE_MASTER_DATA	
CV	Undefined Null
SKILLS	Undefined Null
INTERESTS	Undefined Null
CAREER_ASPIRATIONS	Undefined Null


EMPLOYEE_MASTER_DATA	
BAYER_INTERNAL_NAME	Undefined Null
FORM_OF_ADDRESS	Undefined Null
PID	Undefined Null
BUSINESS_ADDRESS	Undefined Null
BUSINESS_COMMUNICATION	Undefined Null
CWID	Undefined Null
EMPLOYEE_STATUS	Undefined Null
EMPLOYEE_CATEGORY	Undefined Null
GROUP_AND_COMPANY_ENTRY_DATE	Undefined Null

We can immediately see what needs to be included in our Data Security Plan.



CONDUCT THE ASSESSMENT AND PRODUCE A SECURITY ASSESSMENT REPORT

Develop a plan for conducting the security requirements assessment.



Now we are
ready to run
Data Security
Assessments
as needed

Assessments help us identify
unimplemented security
requirements.

Data Governance Project References and Demonstrations

The project we will send to you with the free trial also builds upon the work done on setting up a business glossary, data lineage, and sensitive data tracking.

NEXT STEP ...

Take a look at pre-recorded videos of two demos. The links can be found on the following web page.

<http://www.visible-systems.com/subscriptions/EDG.htm>

Email info@visible-systems.com for your free trial software and a copy of the project described herein. Be sure to include “Sensitive Data Checking” in the subject line of your email.