NASCIO EA Development Tool-Kit
Information Architecture

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TABLE OF CONTENTS

INFORMATION ARCHITECTURE 1

Definitions 2
Models 5
Information Architecture Framework 7
Business Drivers 8
Information Architecture Blueprint Structure 9

INFORMATION ARCHITECTURE DEVELOPMENT 12

Initiate Information Architecture Documentation Process 13
Process Overview 13
Process Detail 15
Develop Information Architecture Framework 16
Process Overview 16
Process Detail 18
Conduct Information Architecture Work Sessions 19
Process Overview 19
Process Detail 22
Create/Update Information Architecture Blueprint Items 23
Process Overview 23
Process Detail 26
Process Component Template 29
Template Overview 29
Template Detail 32
Information Meta Component Template 35
Template Overview 35
Template Detail 41
Template Part 1 – Conceptual Content 41
Template Part 2 – Logical and Physical Content 45

SAMPLES 48

Information Architecture Blueprint Samples 48
Handle Customer Call – Process Component 48
Call (Information Meta Component - Conceptual) 50
Caller (Information Meta Component - Conceptual) 52
Party (Information Meta Component – Logical) 54
Party Type (Information Meta Component – Logical) 56
Party Type Assignment (Information Meta Component – Logical) 57

Party Address (Information Meta Component – Logical) 59
Customer_Name_P (Information Meta Component – Physical) 61
Customer_Address (Information Meta Component – Physical) 63
Criminal Picture Library (Information Meta Component – Physical) 64
Conceptual Information Model 66
Logical Information Models 67
Sample 1 – Alternative A 67
Sample 2 – Alternative B 68

SUMMARY/CONCLUSION 69

JUSTICE INFORMATION EXCHANGE MODEL 70

INFORMATION ARCHITECTURE

Development of NASCIO's Enterprise Architecture Tool-kit is an on-going process. Each iteration of the Tool-Kit will incorporate new knowledge and best practices as they are developed. NASCIO is treating Enterprise Architecture as a program. As a program, EA will continue to evolve and become more sophisticated. The reader is encouraged to treat this version of the Tool-Kit as one iteration in an ongoing process. The Tool-Kit will continue to evolve to reflect the changing nature of EA. NASCIO is presenting Information Architecture as a first iteration in this evolution. This version is not an exhaustive treatment of Information Architecture and so it does not include every aspect of Information Architecture. The Tool-Kit content is not intended to repeat information that is readily available from other sources.

Information is one of the most important assets to any enterprise. Information, frequently defined as the organization of data into usable formats, must be transferred quickly, accurately, in the desired format and be understandable to the user. Information Architecture addresses the informational needs of the enterprise.

The objective of Information Architecture is to manage the information of the enterprise. Information Architecture aligns the Business Processes to the information systems that support these processes, promotes information sharing and facilitates cross-agency information exchanges. Using the set of business processes that provide a view of the functions of the enterprise, the Information Architecture will provide the organization with a high level model of its critical information.

Figure 1 shows how Information Architecture fits within the overall Enterprise Architecture Framework. Information Architecture provides the terminology and definitions for the organization's information assets as well as the processes that affect or are affected by the information.

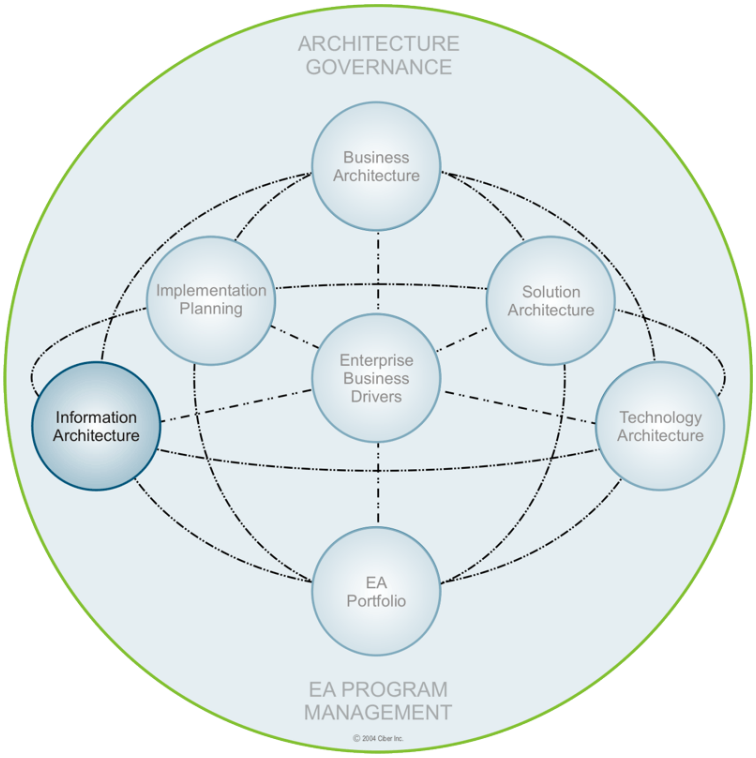


Figure 1. Information Architecture Touch-points

Information Architecture provides a demonstrable, repeatable approach in assuring the alignment of information assets and business processes throughout the enterprise. Documenting the Information Architecture provides a clear understanding of the enterprise's current and future information needs and provides insight into the business processes and their associated information for all enterprise architects. Utilizing the detail documented in the Information Architecture provides the basis for the sharing of information throughout the enterprise as well as across organizational boundaries.

State and local governments continually face mandates for inter-agency sharing of information and providing bundled services. The Information Architecture focus is on shared data elements, or those elements that are involved in information exchange, so that information solutions will operate across agencies and within the lines of business of state and local governments. It is through the Information Architecture that these shared data elements coalesce into the metadata of the enterprise. These shared data elements are exposed through examination of the business processes. This is depicted in Figure 2

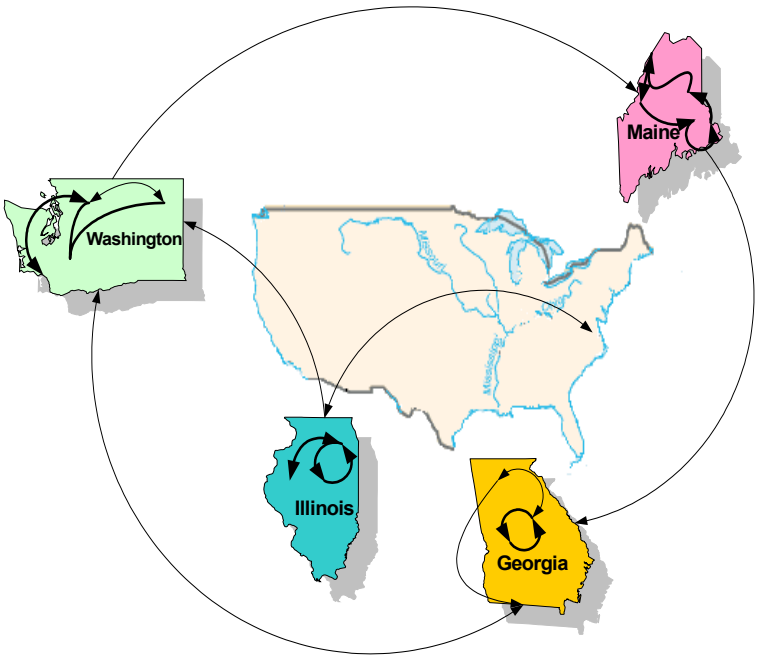


Figure 2. EA enhances interoperability between all government bodies.

The purpose of this section of the Tool-Kit is to provide an introductory understanding of the Information Architecture and a guide in the basics for the development and documentation of Information Architecture. This is accomplished by providing:

- A basic understanding of the terminology used for an Information Architecture
- Definition and organization of an Information Architecture Blueprint
- Sample processes that outline the steps necessary to build the Information Architecture Blueprint
- Collection of start-up templates for populating the Information Architecture Blueprint.

Definitions

When discussing Information Architecture and related topics, the terminology varies, including a variety of terms with the same or similar meanings, as well as varied meanings for the same term. To help minimize any confusion in terminology, a glossary that provides definitions of terms used throughout the Tool-Kit is provided in Appendix A. A brief list of the terms and definitions used throughout the Information Architecture section are provided here:

- *Baseline*: The current or "as is" state of the information environment, captured in a set of baseline information models.
- *Blueprint:* The dynamic depiction of information (content), captured using standardized, structured processes and templates (framework). The Information Architecture Blueprint records the present direction of the enterprise and the direction the enterprise intends to pursue from the perspective of the enterprise information requirements.
- *Cardinality:* Cardinality helps describe the nature of a relationship between two entities. A relationship's cardinality is the number of objects on one side of a relationship that may be related with objects on the other side.
- *Component:* Within this Tool-Kit, component refers to a level of architectural detail. The component level detail is captured utilizing a respective template. Component levels addressed in Information Architecture are Process Information Meta Components.
- *Conceptual Information Model:* Defines the functional requirements and the business users' view of the information.
- *Data:* The atomic bits of fact that constitute the raw material of knowledge about our business. The home address of an individual is data. It is atomic (not divisible) because to divide it renders it useless.[1]
- *Data Element:* A unit of data for which the definition, identification, representation, and permissible values are specified by the means of a set of attributes.[2]
- *Data Element Concepts:* An object, any part of the conceivable or perceivable work, that can be represented in the form of a data element, described independently of any particular representation (the combination of a value domain, data type, and if necessary, a unit of measure or a character set.)[3]
- *Enterprise:* Represents an organization in total, including all subordinate entities, encompassing corporations, small businesses, non-profit institutions, government bodies, as well as other kinds of organizations.
- *Framework:* The combination of the templates and structured processes that facilitate the documentation of the architecture in a systematic and disciplined manner.

  In this Tool-Kit, the term Architecture Framework is used to refer to the combination of the structural elements of the architecture, such as the structure of the Blueprint, the templates and the structured processes for documenting, reviewing communicating, implementing and maintaining the architecture.
- *Gap:* The difference between the "baseline" environment and the "target" environment.
- *Information:* The organization of data into usable formats. Information encompasses both structured (data marts, databases, database tables and data exchanges) and unstructured information (web content, jpeg or video files, and documents).
- *Information Architecture:* The compilation of the business requirements of the enterprise, the information, process entities and integration that drive the business, and rules for selecting, building and maintaining that information.
- *Information Relationship:* The description of how one Entity/Class is related to another.

[1] Mosshamer, E. L., A Word on Semantics: Data, Information, Knowledge, Insight, Illinois Mathematics and Science Academy
[2] ISO/IEC 11179-1:1999(E)
[3] ISO/IEC 11179-1:1999(E)

- *Information Subject Area:* Topical or functional categories of the business processes that are integral to the operations of the enterprise, such as Customer, Product/Service, etc.
- *Logical Information Model*: Shows the main functional [information] components and their relationships within a system [an enterprise] independent of the [system and] technical detail of how the functionality is implemented.[4]
- *Metadata:* Literally, "data about data." Metadata includes data associated with either an information system or an information object, for purposes of description, administration, legal requirements, technical functionality, use and usage, and preservation.[5] Therefore, metadata gives us detail about both what the data means and how it's stated. Metadata is one of the greatest critical success factors to sharing information because it provides business users, developers and data administrators with consistent descriptions of the enterprise's information assets.
- *Migration:* The evolution from the baseline to the target state.
- *Model:* The graphical representation or simulation of a process, relationship or information, along with the narrative that supports the diagram.
- *Repository:* An information system used to store and access architectural information, relationships among the information elements, and work products.[6]
- *Target:* The desired future or "to be" state of the business information environment, captured in a set of target information models.
- *Template:* The empty form that is provided as a guide for capturing details that need to be documented and ultimately will reside in a repository.

Information Architecture differs from Data Architecture in that it encompasses both structured (data marts, databases, database tables and data exchanges) and unstructured information (web content, jpeg or video files, and documents). Information Architecture also includes the defining of business functional processes and delineates the relationship of the data element concepts to the processes. Within Information Architecture, the relationships between Business Domains and business processes are documented, as well as the information, business rules, and organizational roles/responsibilities that are part of each process.

In the NASCIO Tool-kit, the remaining elements of Information Architecture reside in the appropriate sections. For example, the strategic information needed for the conceptual components resides in the Business Architecture section, while the Technology Architecture section addresses information-related standards and tools such as:

- Database engines
- Metadata repositories
- Content management tools/standards
- Document management tools/standards
- Data analytical reporting tools/standards
- Information naming standards
- Information modeling denotation standards

[4] http://msdn.microsoft.com/architecture/enterprise/default.aspx?pull=/library/en-us/dnea/html/eaarchover.asp#eaarchover_topic3
[5] http://www.getty.edu/research/conducting_research/standards/intrometadata/4_glossary/index.html
[6] Federal Chief Information Officer (CIO) Council, Federal Architecture Working Group, A Practical Guide to Federal Enterprise Architecture, Version 1.0, February 2001.

- Diagramming and process symbol standards.

Because information standards are covered within the Technology Architecture (Information Domain), Enterprise Architecture teams may want to consider the development of the Information Domain of the Technology Architecture prior to the Information Architecture effort.

Models

The conceptual, logical, and physical models of the Information Architecture are designed to translate business information from the business user view (conceptual) to the actual physical information objects, such as, database tables, web content, or documents, in the systems where the information resides.

Conceptual Model - The conceptual model defines the information in the language of the business or non-technical end user. It is the most abstract model and the purpose is to define the functional, business view of the data.

Logical Model - The logical model follows the conceptual model. The purpose of the logical model is to depict business information including business relationships and business semantics adopted within the enterprise. The logical data model should be developed independent of the technical details of how the information is implemented. In this manner the information models are built to address the business objectives and requirements.

Physical Model - The physical models are defined/mapped from/to the logical models. At this level, the models are solid, defining tables, document, content and views that are specific to the implementations of the information for the enterprise. Physical designs are predefined in purchased solutions; therefore, when working with purchased solutions, the designs existing in the purchased solution are mapped to the logical.

For the baseline or current environment, Information Architecture will develop the Process Components and the conceptual, logical and physical levels of the Information Meta Model Components.

For the target or future environment, the Information Architecture will define the Process Components and conceptual level only of the Information Meta Model Components. The target logical and physical models will be developed within Solution Architecture, as will the physical model.

By capturing the information for these components in current information models (Baseline) and proposed information models (Target), deficiencies and gaps can be identified. Based on the analysis of the business drivers and the gaps, migration strategies can be developed to bridge the gaps and provide a roadmap to move to the target information model. The Information Architecture teams contribute to the documentation of the Gap Components, perform gap analysis and develop migration strategies as part of Implementation Planning.

Information Architecture clarifies business relationships and enhances understanding of the business rules the enterprise has adopted. A government organization may want to use this baseline for exploring and implementing changes relative to how information is used and what business rules related to information the enterprise will adopt.

Information Architecture offers many benefits to the Enterprise. These benefits can be used to garner support specifically for the Information Architecture effort as well as for Enterprise Architecture as a whole. These benefits include:

- Create understanding of the business semantics for both baseline and target
- Facilitate communication and understanding throughout the vitality processes
- Promote understanding and validation of the flow of control
- Increase understanding of business interactions
- Leverage linkage across government-wide entities
- Increase collaboration and sharing of information
- Reduce information redundancy
- Increase information re-use
- Improve process interoperability across the enterprise
- Alignment to the Federal Enterprise Architecture
- Facilitate cross agency analysis
- Increase responsiveness to citizens.

The development and maintenance of a vital Information Architecture requires the involvement of personnel in a variety of roles and responsibilities. Table 1 provides a reminder of the roles that apply across all of the architectures.

Table 1. Architecture Roles

Primary Roles	*Supportive Roles*
• Overseer • Champion • Manager • Documenter • Communicator • Advisor • Reviewer • Audience	• Subject Matter Experts (SME) • Services Teams • Project Teams • Procurement Manager • Project/ Services Communicator • Special Interest Groups • Enterprise Executive

Greater detail for these roles, including a brief description of the role, its responsibilities, recommended implementation, etc. are provided in the Architecture Governance Section of this Tool-Kit (see *Architecture Governance Roles*). Appendix C also contains a Role & Responsibility Matrix, which provides an "at-a-glance" reference of the responsibilities of each Architecture Governance role, the items acted upon, and the roles that interact regarding each responsibility. The governmental entity must determine the roles that will best enable their organization to develop their own Information Architecture. The following identifies the roles that are basic to developing an Information Architecture and provides brief role descriptions:

- The Information Architecture Manager is an executive who manages the existing and future information assets and ensures these assets are consistently maintained. Additionally this manager is familiar with the business, the design of information assets that relate to the business and the standards put forward by the Information Architecture Domain.

- The Information Architecture Documentation team is comprised of modelers knowledgeable of various aspects of enterprise-wide business processes and information and responsible for steering, shaping, and developing an Information Architecture Blueprint. These team members should be knowledgeable in business and the applications of technology. The role of Documenter refers to the combination of those best suited to document the architecture, including Subject Mater Experts in Business Process and Information Meta Components.
- The Information Architecture Subject Matter Expert (SME) is a member of an interdisciplinary team that ensures that the business processes and information are fully understood and correctly documented from a business perspective in the Information Architecture Blueprint. The SMEs may also serve as Information Architecture Documenters.
- The Information Owner is ultimately accountable for the information asset and business process. The owner is also responsible for ensuring the quality and determining the Security Classification for the Information. The Owner is the role that defines the nature of the business information, including its place in business process functions. The owner perspective is essential to directing the day-in and day-out management of the business information and the future information needs of the business. The Owner enforces the information policies and procedures developed by the Stewards.
- The Information Steward is responsible for information content and for using and managing information in a practical manner. This includes ensuring appropriate usage of the information within the rules established by the owner. Given the constraints of the owners, the steward can manage the information for the use they need, but the steward is then responsible for communicating and verifying new uses for and changes to the information with the information owner.[7]
- The Information Custodian is responsible for assuring integrity of the information captured, for proper handling of the information (not the content), and for assuring the information is available when needed.

The actual ownership of business information created at or obtained within the enterprise belongs to the enterprise, not to any particular line of business, role or individual. Information or data gathered or produced for business purposes cannot be "owned" by a single individual or line of business unit within the enterprise. Protection of privacy, compliance with legal requirements and fiduciary requirements mandate that the enterprise owns the information and data. For members of the enterprise's community to make informed and timely decisions, accurate versions of the business information that are relevant to their decision-making must be readily available. Therefore, the roles outlined above refer to the responsibilities and accountabilities in relationship to the content, rather than actual ownership of the information.

Information Architecture Framework

The Information Architecture Framework refers to the structural elements of architecture, namely the combination of the templates and structured processes that facilitate the documentation of the enterprise's information artifacts (e.g., processes and metadata) in a systematic manner. The information captured provides a picture of where the enterprise is today (baseline) and where the enterprise wants to be in the future (target) related to information requirements. Having an accurate representation of the two

[7] ComputerWorld, March 15,2004, "Data Stewards Seek Data Conformity". Mary Brandel—www.computerworld.com/databasetopics/businessintelligence/datawarehouse/story/0,10801,91146,00.html

classifications of the business information/processes (baseline and target) enables the identification of differences (i.e., gaps) between the two and formulation of the steps necessary to move from one to the other (Figure 3.).

Documenting the Information Architecture using the Information Architecture Framework will:

- Provide insight into strategic information and process requirements/needs
- Show how those requirements/ needs are met today / not met today
- Furnish the roadmap to furthering those requirements / needs in the future
- Provide valuable detail for making decisions and planning the investments (human capital or monetary resources) to further those requirements / needs into the future.

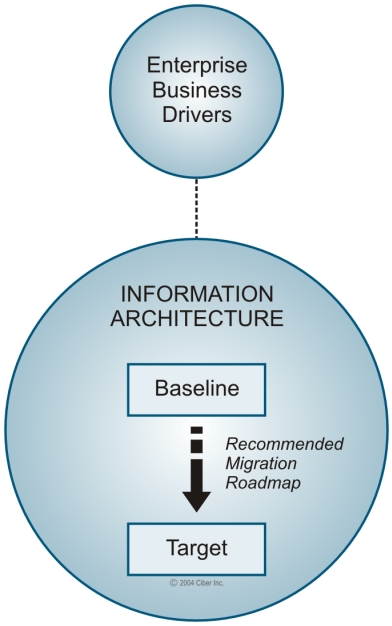


Figure 3. Information Architecture Flow

This section of the Tool-Kit supports NASCIO's architecture program by providing municipal, county and state governments a framework for establishing an effective Information Architecture Blueprint. This framework provides the processes and templates to guide the documentation of various information elements such as:

- Information organizations / roles
- Business information concepts
- Process activity.

The effective use of an Information Architecture Framework provides a standardized approach to capturing the details of the Information Architecture Blueprint by means of:

- Processes for documenting the Blueprint
- Templates for capturing the Blueprint detail.

Standardization promotes broader understanding and facilitates the integration and interoperability of solutions.

BUSINESS DRIVERS

The identification and development of Business Drivers is an important part of developing Enterprise Architecture. Business Drivers refer to the global influences on business that are captured within the architecture to show their acceptance and adoptability into the environment. Though these global influences can be of numerous types, three common categories of Business Drivers are Principles, Best Practices and Trends.

- *Principles:* Principles are statements of preferred direction or practice. Principles constitute the rules, constraints and behaviors that a bureau, agency or organization will abide by in its daily activities over a long period of time. Principles also encompass the business practices and

approaches that the organization chooses to institutionalize to better provide services and information.

- *Best Practices:* Best Practices are behavioral patterns and/or approaches that have proven successful over time for providing services and information.
- *Trends:* Trends are emerging influences within the business world that impact how services and information will be provided. Trends include governmental trends as well as architecture specific tends, i.e. technology trends, information management trends, etc.

INFORMATION ARCHITECTURE BLUEPRINT STRUCTURE

An Information Architecture Blueprint refers to the dynamic depiction of information captured using standardized, structured processes and templates. The Information Architecture Blueprint provides the basis for managing the enterprise information to maximize sharing of data across the enterprise. The Information Architecture Blueprint is comprised of Information Subject Areas, Process Components, and Information Meta Components.

Figure 4 provides a pictorial view of the relationship between the Information Architecture Blueprint elements. The graphic displays how these pieces work together to ensure the complete documentation of the Information Subject Areas and components that form the Information Architecture Blueprint.

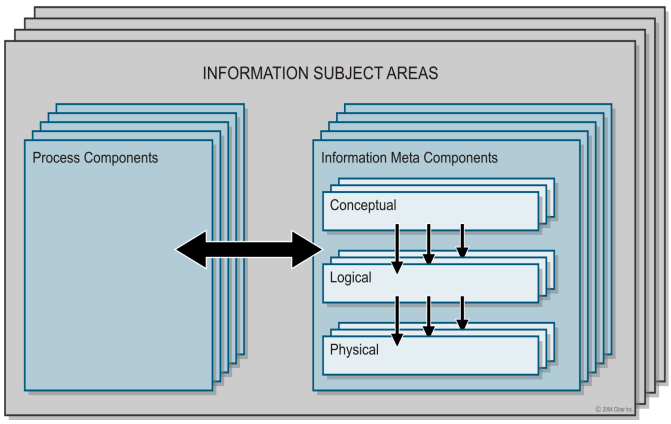


Figure 4. Information Architecture Blueprint Structure

Information Subject Areas – An Information Subject Area is a topical or functional division of the Enterprise's information. Unlike Business Domains it is not recommended to mix them. Examples of typical subject areas for shared information are:

- Customer / Customer Management
- Vendor/Supplier / Vendor Management
- Product/Service / Product/Service Management
- Organization / Organization Management
- Employee / Human Resource Management
- Geography / Location Management
- Calendar / Time Management

Information Subject Areas might vary somewhat within specific organizations, but this basic set will serve to categorize information for most enterprises. Each organization should determine the definition and scope of the subject areas that best reflect the information requirements of their organization. The detail captured within each Subject Area will cover topics such as:

- Information about them (e.g. Information about the Customer)
- The actions performed on/against them (e.g. Actions performed on a Product)

- The actions performed by them (e.g. Actions performed by the Customer)
- The actions performed for them (e.g. Actions performed for the Customer)

Process Components – The Process Components define the business functional processes and delineate the relationship of the data element concepts to the processes. Information Architecture Process Components specifically identify the business domain and/or information subject area that relate to each business process and the information, business rules, and organizational roles/responsibilities that are part of the process. There may be instances when additional decomposition of components is useful. Books and classes on developing use cases and decomposition levels are readily available.

Information Meta Components – The Information Meta Components serve to identify and define the shared information. The Information Meta Components are first identified as Data Elements or Data Element Concepts with the help of the Business SMEs. The Information Documenters refine this Conceptual model into the Logical and Physical layers of the Information Architecture.

These elements of the Blueprint will be addressed in greater detail in the Information Architecture Documentation process models; however, there is one additional component that is introduced here: the Gap Component.

Gap Components – In reality, the Gap Component resides as a component of the Gap Analysis and Migration Plan. However, contributions to the Gap Component come from Business, Information, Solutions and Technology architectures. As part of the Information Architecture Documentation Process, once the baseline and target detail has been confirmed for any given Data Element/Concept (Information Meta Component, conceptual detail) or process component, identified gaps between the Information Architecture Components are documented. The documentation of these gaps, along with the migration strategies for alleviating these gaps, provides the roadmap for achieving the target architecture. The graphic in Figure 5 shows the critical link between the Information Architecture Blueprint and the Gap Component, which is part of Implementation Planning.

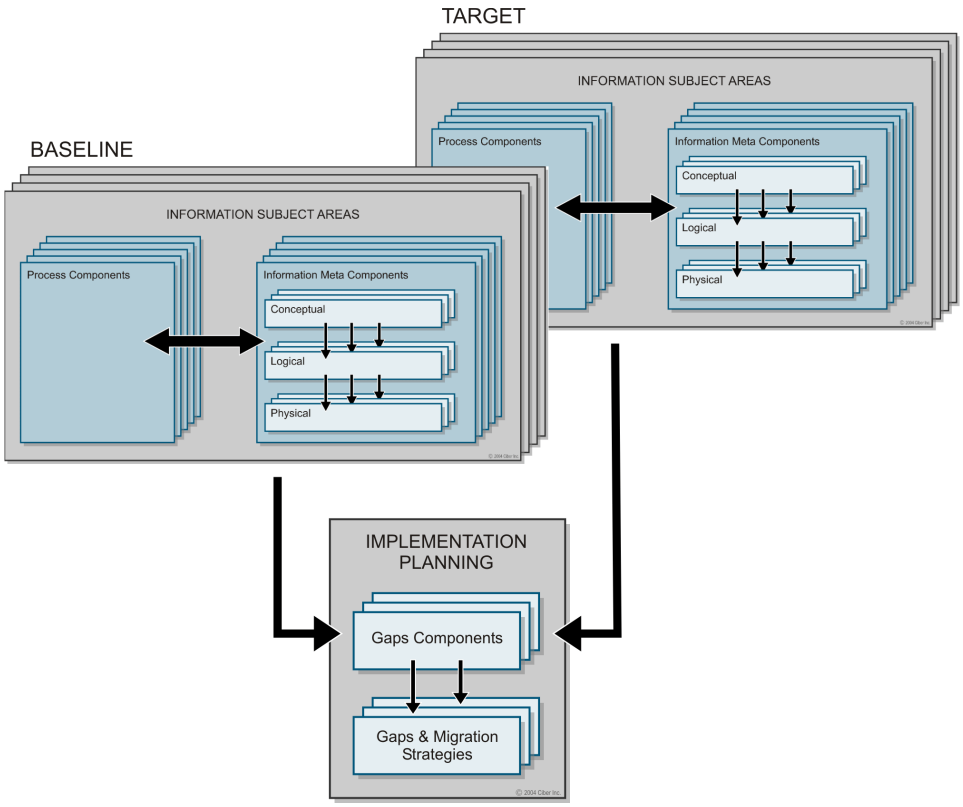


Figure 5. Information Architecture Contributes to Implementation Planning

INFORMATION ARCHITECTURE DEVELOPMENT

The Information Architecture Process begins with the Information Architecture Documentation Process, which allows the Architecture teams to capture, analyze, and document details about the information included in the Information Architecture Blueprint.

Figure 6 provides a graphical representation of the workflow path for the architecture team as they move through the processes and sub-processes of the Information Architecture Documentation Process.

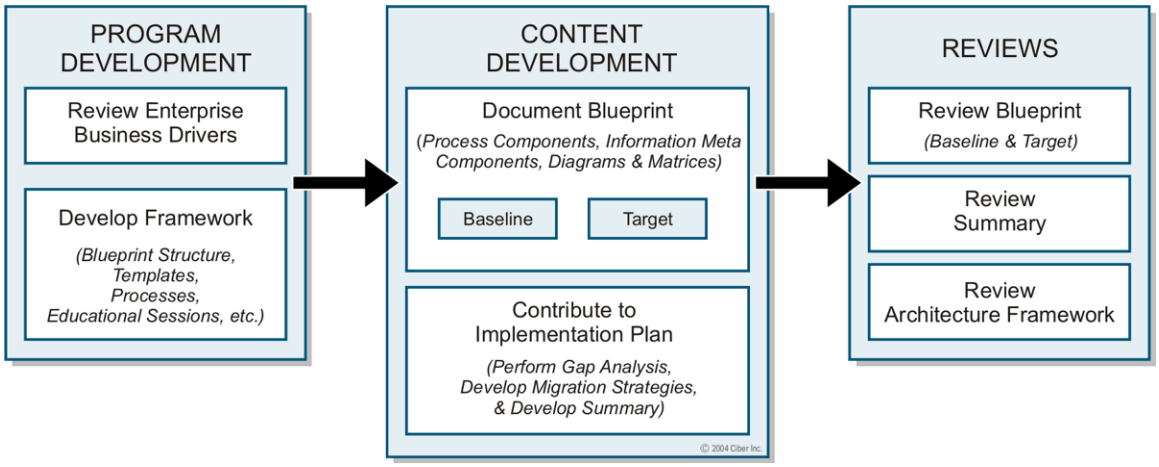


Figure 6. Information Architecture Documentation Work Flow

The Documenters develop the Information Architecture Blueprint by interviewing Subject Matter Experts regarding various functional and topical areas. The explicate definition of the information model is then captured in what is referred to as the Information Architecture Blueprint. Diagrams and matrix information about the defined information assets are created during this process to show the relationships and associations of all the information definitions.

The Information Architecture Documentation Process describes a systematic approach for developing and maintaining the Information Architecture Blueprint. The Information Architecture Documentation Process consists of several sub-processes, including:

- Initiate Information Architecture Documentation Process
- Develop Information Architecture Framework
- Conduct Information Architecture Work Sessions
- Create/Update Information Architecture Blueprint Items

The structure for each sub-process of this Information Architecture Documentation Process follows the same format:

- Introductory material (where applicable)
- Process model
- Narrative description of the process

- Template for capturing Blueprint detail (where applicable)
- Narrative description of the detail to be captured utilizing the template

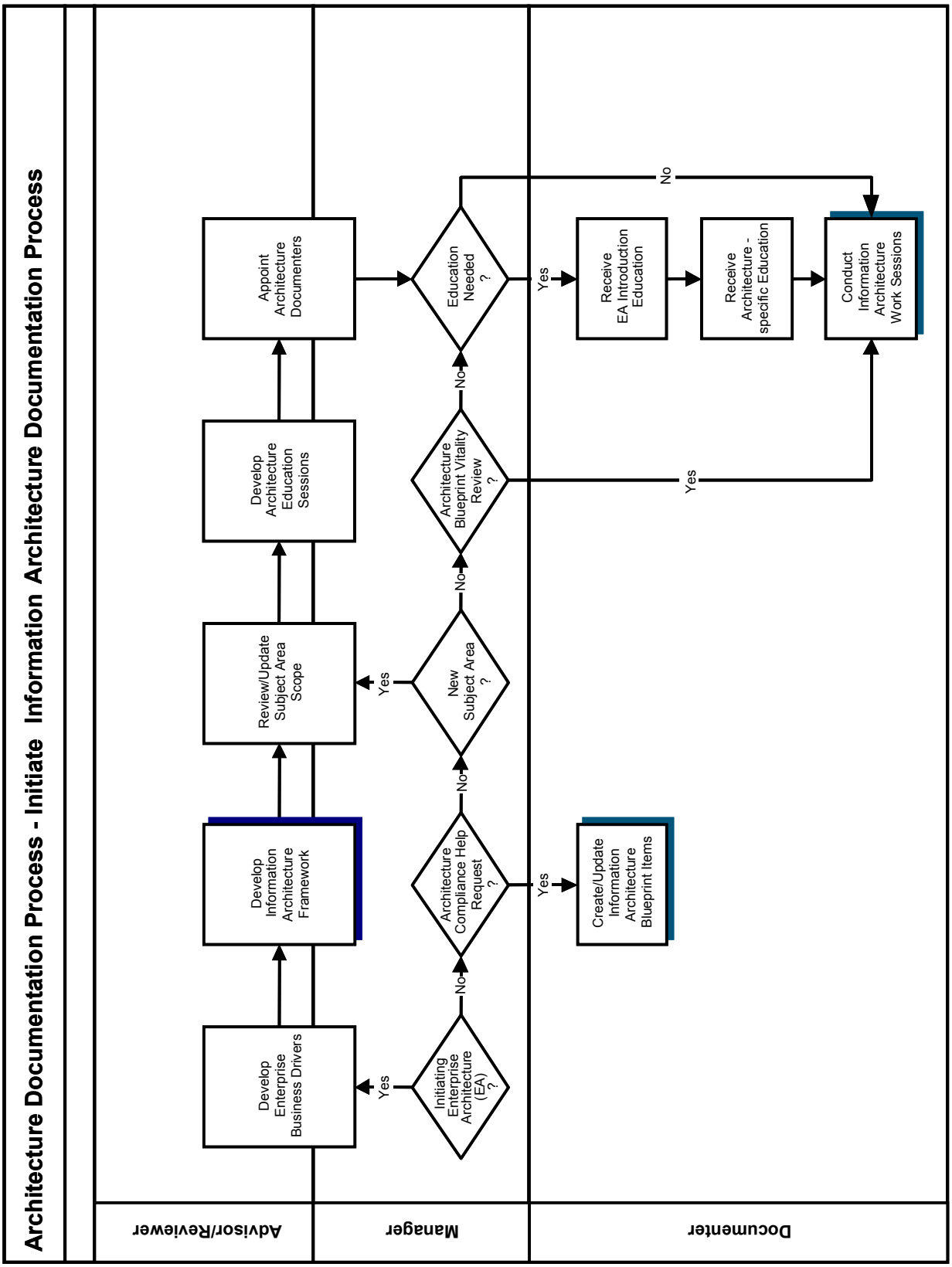
Initiate Information Architecture Documentation Process

PROCESS OVERVIEW

The Initiate Architecture Documentation Process presented here is similar to the generic process model provided in the Architecture Governance Section of the Tool-Kit. This model and narrative provides the initial process steps that are specific to the Information Architecture.

The Information Architecture Documentation Process can be triggered by any of the following processes/activities:

- Initiating Enterprise Architecture (EA)
- Initiating one of the constituent architectures
- Architecture Compliance Help Request
- Architecture Blueprint Vitality Review
- New Process or Information Meta Component


Architecture Documentation Process - Initiate Information Architecture Documentation Process
Advisor/Reviewer
Manager
Documenter
Develop Enterprise Business Drivers
Develop Information Architecture Framework
Review/Update Subject Area Scope
Develop Architecture Education Sessions
Appoint Architecture Documenters
Initiating Enterprise Architecture (EA) ?
Architecture Compliance Help Request ?
New Subject Area ?
Architecture Blueprint Vitality Review ?
Education Needed ?
Create/Update Information Architecture Blueprint Items
Receive EA Introduction Education
Receive Architecture - specific Education
Conduct Information Architecture Work Sessions
Yes
No

PROCESS DETAIL

Review Enterprise Business Drivers – It is important for the Information Architecture team to understand and become familiar with the Enterprise Business Drivers. While the development of the Enterprise Business Drivers is typically an overarching activity of Business, the Information Architecture team may become aware of circumstances or shifts from documented drivers and can contribute to the vitality of the Enterprise Business Drivers.

Develop Information Architecture Framework – The information documented within the Information Architecture Framework will play an important role in the development of the Information Architecture Blueprint. The NASCIO Information Architecture Framework provides structured processes and templates for capturing this information in a consistent and systematic manner. An enterprise may decide to use the framework elements as described in the NASCIO Tool-Kit, or may choose to develop a modified version, or may choose to use processes, templates and governance structures other than the examples provided in this Tool-Kit.

Review/Update Subject Area Scope – Review the definition of the Subject Area and add any detail that will be helpful in identifying the documentation team members. Also add any information that will help the team developing the documentation for this Subject Area.

Develop Architecture Education Sessions – Introductory and Information Architecture-specific sessions should be developed. The purpose of the Introduction to Enterprise Architecture Educational Session is to provide a high-level overview of the Enterprise Architecture Program. This session can be provided to executives, legislators or anyone within the organization that would benefit from an overview of Enterprise Architecture. The architecture-specific session should be designed to prepare Documenters for their role in the documentation effort. This session typically includes a review of the governance structure and overview of the templates they will be utilizing to document the detail for the architecture and processes they will follow or will affect their documentation efforts. Developers of training materials should consider inclusion of the following materials:

- Purpose
- Presenters
- Intended audience
- Session structure
- Prerequisites
- Syllabus
- Objectives
- Class materials for both instructors and attendees

Appoint Architecture Documenters – The Documenters will be appointed from subject matter experts familiar with the information needs of the enterprise. The team is comprised of modelers familiar with various aspects of enterprise-wide business and responsible for steering, shaping, and developing the Information Architecture Blueprint.

Receive EA Introduction Education – Documenters will receive initial training that covers an overview of enterprise architecture and architecture governance.

Receive Architecture-specific Education – After receiving initial enterprise architecture training, the Documenters will receive specialized instruction addressing the Information Architecture templates and documentation processes they will use to document the details of the Information Architecture Blueprint relative to their specific Information Subject Area.

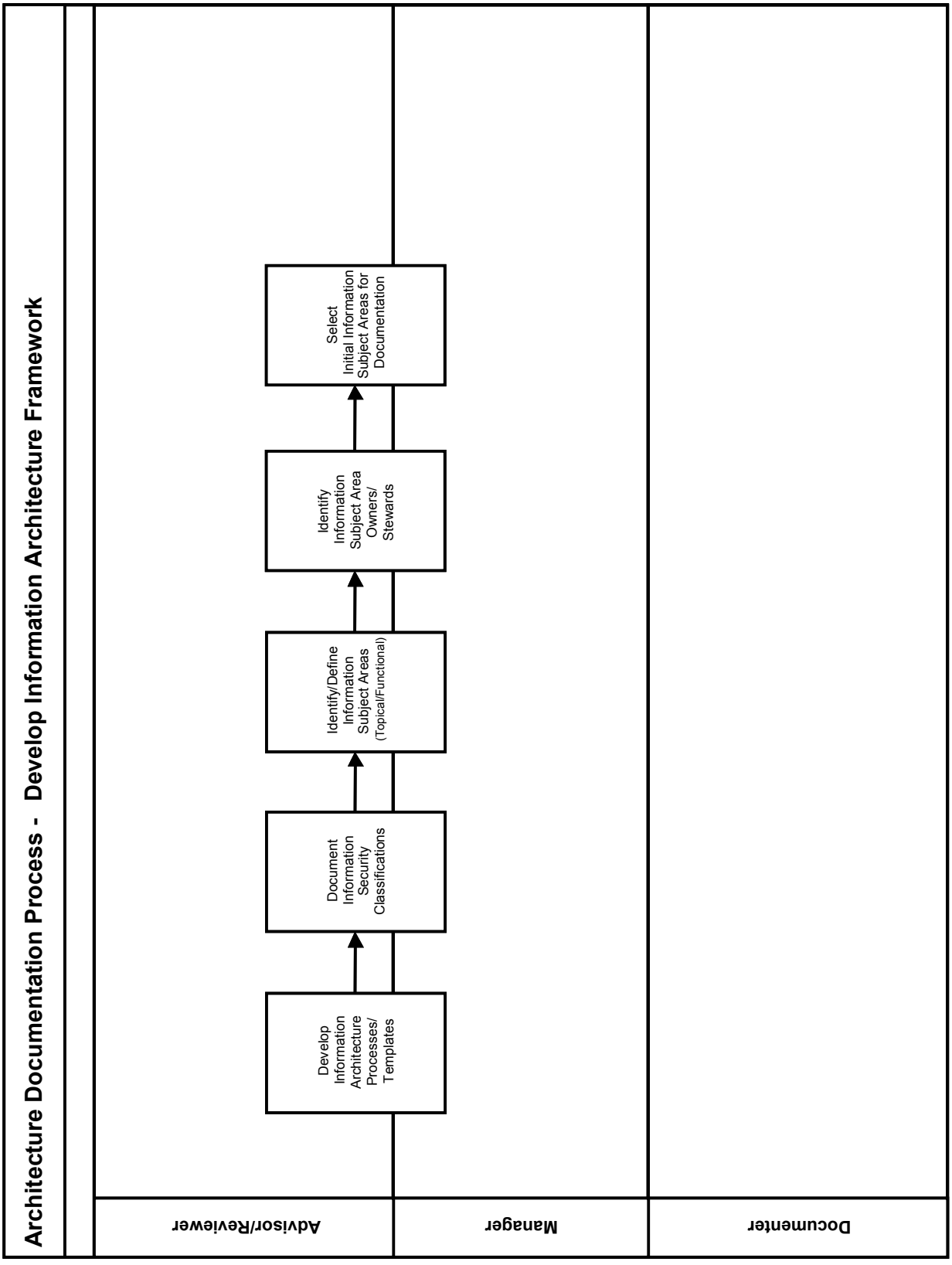
Conduct Information Architecture Work Sessions – Applying knowledge gained in the first two education sessions, Documenters will begin development of the Information Architecture Blueprint documentation. The detail of the Work Sessions is presented in a separate process. (See Conduct Information Architecture Work Sessions).

Create/update Information Architecture Blueprint Items – If architecture compliance help is requested, the various Blueprint items should be updated. The process model and details pertaining to updating the Blueprint items are presented in a separate process. (See Create/Update Information Architecture Blueprint Items).

Develop Information Architecture Framework

PROCESS OVERVIEW

NASCIO's Information Architecture Framework provides a clear and consistent methodology to support communication and implementation of the Information Architecture. The combination of processes and templates are designed to facilitate the documentation of the Enterprise Information Architecture. An enterprise may decide to use the NASCIO Tool-Kit or it may choose another methodology. Regardless of the methodology selected, the structure for capturing Information Architecture Blueprint detail should be consistent and concise to ensure uniform documentation and communication across the enterprise.


Architecture Documentation Process - Develop Information Architecture Framework
Advisor/Reviewer
Manager
Documenter
Develop Information Architecture Processes/ Templates
Document Information Security Classifications
Identify/Define Information Subject Areas (Topical/Functional)
Identify Information Subject Area Owners/ Stewards
Select Initial Information Subject Areas for Documentation

PROCESS DETAIL

Develop Information Architecture Processes/Templates – Developing the processes and templates for capturing pertinent architecture detail, as well as defining and documenting changes to the overall governance structure that supports the architecture activity, is a critical step when initiating Enterprise Architecture or any of the underlying architectures. Each enterprise must decide upon a methodology that best suits their organization. The methodology that is best for an organization is the one that addresses the resource and time constraints for that enterprise.

During the development of the Information Architecture process and template designs is a good time to consider the use of a repository or automated tool for the capture, storage, and presentation of the architecture documentation. There is a considerable amount of documentation within an Enterprise Architecture and many interrelations between the underlying architectures. The use and maintenance of the Enterprise Architecture is greatly simplified when the architecture documentation and models are readily available to all stakeholders.

There are many methods and tools used for capturing the detailed information regarding the processes, events, agencies, information and conditions involved in an architecture project. One example of a tool that embodies the principles of both business and information architecture is the JIEM (Justice Information Exchange Model).[8] JIEM is a Web-based software application developed by SEARCH, The National Consortium of Justice Information and Statistics, for the Department of Justice that enables data collection, analysis, and reporting by users and researchers (For additional detail, see *Justice Information Exchange Model* at the end of this document).

While the JIEM tool was created specifically for meeting the needs of the courts and justice agencies, the methodologies regarding the capturing of detailed information surrounding the processes, events, agencies, information and conditions apply to any organization striving to focus on the enterprise-wide exchange of information.

Document Information Security Classifications – The standards for all security classifications reside within Technology Architecture under the Security Domain. Documenters will coordinate with the Technology Architect to determine appropriate classifications.

There are numerous methods used to classify information. For example, the US Department of Defense has various rules to categorize classified documents. These guidelines reflect a military style of classification, such as Top Secret, Secret, Confidential, and Unclassified data. The Security Classifications influence anyone who creates, dispenses or modifies information. They must understand and follow Security Classification policies.

A simple Security Classification for business use could be:

- External – Security Classification is defined outside the Enterprise, for example, information from Homeland Security.
- Privileged – This is a private Security Classification and would cause serious harm to the business of the Enterprise if breached.
- Sensitive – In this Security Classification, information obtained by unsecured parties would cause moderate harm to the business of the Enterprise.

[8] SEARCH – The National Consortium of Justice Information and Statistics, JIEM Reference Model, Version 1.0.1, May 2004

- Public—Information available to the Public for the use of all Citizens.

Identify/Define Information Subject Areas - An Information Subject Area is a topical/functional division of the Enterprise's information. All shared information in the enterprise is categorized into one of the Subject Areas. These Subject Areas can have actions performed against them, by them, for them or have data captured about them, etc. (e.g. data captured about customers/vendors, etc., actions performed by customers/vendors/employees, etc.). Each organization should determine the definition and scope of the subject areas that best reflect the information requirements of their organization. Subject Areas serve as categories for capturing Metadata and Processes.

The documentation team (Documenters and Subject Matter Experts) defines the scope of each of the Subject Areas for their organization, reviews the definition of the Subject Area and adds any detail that will be helpful in developing the documentation for this Subject Area. The Reviewers, in the evaluation of the Subject Areas, examine the scope to assure that there is no overlap or duplication of Subject Areas.

Identify Information Subject Area Owners/Stewards – Information gathered or produced for business purposes cannot be "owned" by a single individual or Line of Business unit within the State; however, individuals have accountability for the creation and management of the information. These responsible individuals need to be identified so that the accurate information data elements, concepts and process information can be documented for each subject area.

Select Initial Information Subject Areas for Documentation - Once the Information Subject Areas have been identified; the Advisors prioritize the subject areas to determine the most crucial candidate for initial documentation. Considerations in the selection process include the need for information exchange or information sharing, support of the Business Drivers, and any subject area that is a source of Metadata definitions. The specific circumstances of each enterprise such as legislative mandates, federal regulation, budgetary constraints, competing resources, organizational readiness, pain points, and delivery timeframes will all be additional considerations.

Conduct Information Architecture Work Sessions

PROCESS OVERVIEW

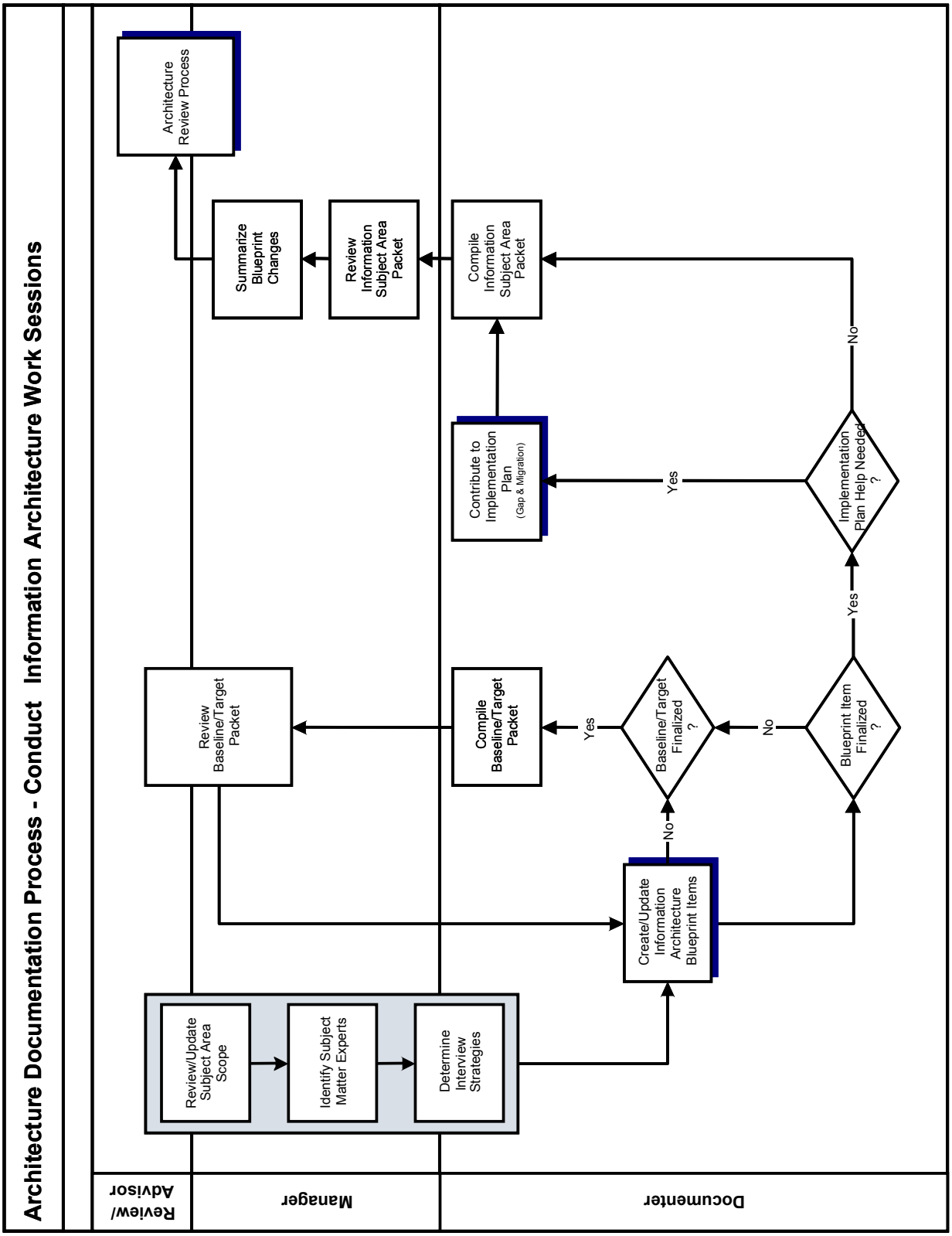
The Information Architecture work sessions are intended to produce the documentation that initially populates the Information Architecture Blueprint. Ongoing Documenter meetings are required to maintain the vitality of the Information Architecture Blueprint. The first session will include:

- Defining roles and responsibilities
- Reviewing architecture blueprint documentation requirements
- Determining expectations of on-going meetings

After the first meeting, on-going working sessions are triggered from Architecture Lifecycle Processes, including:

- Architecture Review Process
- Architecture Compliance Process
- Architecture Blueprint Vitality Process.

The creation of diagrams for the Information Architecture components provides a pictorial view for identification of the organization's information needs. Analyzing the various pieces within the enterprise facilitates the process of articulating the foundation of the architecture. Individual components can be more easily defined and will enable better communication of the information concepts. The relationships between various pieces can also be built into summary level views.


Architecture Documentation Process - Conduct Information Architecture Work Sessions
Reviewer/ Advisor
Manager
Documenter
Review/Update Subject Area Scope
Identify Subject Matter Experts
Determine Interview Strategies
Review Baseline/Target Packet
Compile Baseline/Target Packet
Baseline/Target Finalized ?
Yes
No
Create/Update Information Architecture Blueprint Items
Blueprint Item Finalized ?
No
Yes
Implementation Plan Help Needed ?
Yes
No
Contribute to Implementation Plan (Gap & Migration)
Compile Information Subject Area Packet
Review Information Subject Area Packet
Summarize Blueprint Changes
Architecture Review Process

PROCESS DETAIL

Review/Update Subject Area Scope - The basic definition of each Subject Area, as defined in the Initiate Information Architecture process, is provided to the Advisors/Reviewers. The Documenters will update the definition as necessary and identify parameters for setting boundaries within the Subject Area. In this process, the scope of the individual efforts for further developing the Information Architecture Components can also be defined in greater detail.

Identify Subject Matter Experts – In this process, experts in a particular segment of the business are determined. Based on the subject area scope, Subject Matter Experts that understand the functional/topical areas are identified. These individuals include the Subject Area Experts, Information Owners and Information Stewards.

Determine Interview Strategies – Interview meeting topics should be determined in one of the first working sessions. Interview questions should to be designed to streamline the interview process and get the most information in minimum time. Interview questions should address the six interrogatives from the Zachman Framework.[9] These interrogatives are who, what, where, when, why and how.

The following provide several ways to determine interview strategy:

- Based on Business Processes. An example of this is documenting the process activities of the various components around inventory from ordering to consumption. Show the creation, utilization, and obsolescence of a given information asset. This can aid in capturing information components such as process flows with additional information about data usage and location.
- Based on a specific information asset. An example of an information asset is "Customer." This can be used to capture the details concerning the Data Element/Concept component such as industry descriptors and security classifications.
- Based on documenting the baseline activities followed directly with the target activities, for a given topic. Often the ability to stay on the same topic in a given timeframe assists in capturing the information around that topic, both where the business is today and where the business wants to be tomorrow. This can really help keep the creativity rolling without starting and stopping based on baseline and target.

Create/Update Information Architecture Blueprint Items – The Blueprint items include both the process and information components being developed. In developing these components the following blueprint items can be created:

- Diagrams
- Information Meta Component details
- Process Component details
- Matrices

A separate process diagram and narrative for this sub-process will provide greater detail (See *Create/Update Information Architecture Blueprint Items*).

[9] Zachman Framework, www.zifa.com

Compile Baseline/Target Packet, Review Baseline/Target Packet – At the completion of Baseline, and again at the completion of the Target, a packet containing the documentation should be complied and sent for review. This is beneficial to the documentation process as it allows feedback from the perspective of the Manager, Reviewers and Advisors at strategic points throughout the documentation process.

Contribute to Implementation Plan – After the Blueprint items have been finalized, Documenters will also contribute to the Implementation Plan if needed. Contributions include completing the detail for the Gap Components, performing a Gap Analysis, developing Migrations Strategies, and creating a summary of Gap and Migration results.

A copy of the Gap Component template, narrative for capturing the gap detail, and a sample of the template with completed Gap Component Blueprint detail can be found in the Business Architecture section. (See *Business Architecture - Gap Component Template* and *Business Architecture Blueprint Samples – Gap Component).*

Compile Information Subject Area Packet – A packet containing the completed Blueprint documentation will be compiled in preparation for formal review.

If the Gap Analysis and Migration Strategies have been completed, the detail that was compiled into the Architecture Summary document will also be included in the Information Subject Area Packet.

Review Information Subject Area Packet – The Information Architecture Manager will verify the contents of the Information Subject Area Packet and work with the Documenters to make modifications as necessary.

Summarize Blueprint Changes – After contents of the packet are verified, the IA Manager will summarize any changes that have been made to the Information Architecture Blueprint for tracking purposes and forward the packet to the reviewers for the formal Architecture Review Process.

Architecture Review Process – The packet is either accepted into the architecture or rejected by the IA governing bodies.

Create/Update Information Architecture Blueprint Items

PROCESS OVERVIEW

The Information Architecture Blueprint items consist of the Process Components and the Information Meta Components; the diagrams on which the various components and their relationships are illustrated; various matrices that show the associations between the Information Architecture Components, and the other Components in the Enterprise Architecture Blueprint.

Information Architecture Components refer to the individual elements that are documented as part of the Information Architecture Blueprint (i.e. Process Components and Information Meta Components). Information Architecture Components specifically identify what process, information, business rules, and organizational roles/responsibilities will be used for implementation of the Information Subject Area.

Information Architecture Components are identified during the Information Architecture interview process and documented within each of the subject areas as appropriate. The Information Architecture

Documenters, along with the Subject Matter Experts who are not already part of the documentation team, determine the information to be documented as Information Architecture Components. Within the documentation, references that identify relationships to other Information Architecture Components are also documented.

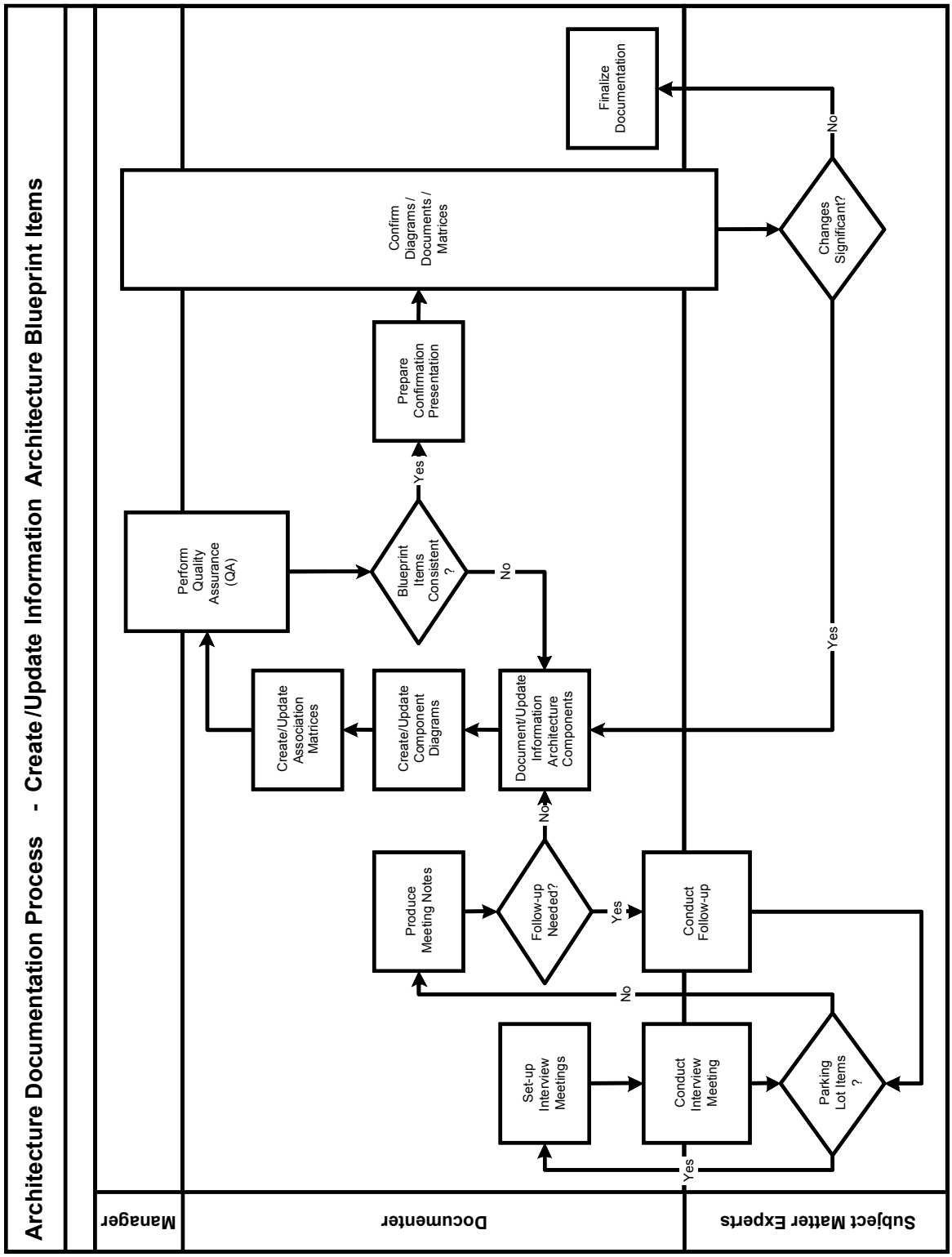
The Information Architecture Process Components perspective will encompass items that answer the following questions:

- *How are the information assets used by the business and in which processes?*
- *Who executes those processes?*
- *Where are those processes executed?*
- *When are the processes used, and in which business cycle?*
- *Why are the processes important to the business?*

The Information Architecture Meta Components perspective will cover items that answer the following questions:

- *What information is vital to the business*?
- *Who owns/stewards the information asset?*
- *Who uses the information assets?*
- *Where are the information assets captured and stored?*
- *What are the business rules for the information asset?*
- *What is the security classification of the information asset?*

IA Components address the various information assets and processes of the business. They identify the information assets and processes that are critical for information exchange.


Architecture Documentation Process - Create/Update Information Architecture Blueprint Items
Manager
Documenter
Subject Matter Experts
Finalize Documentation
Confirm Diagrams / Documents / Matrices
Changes Significant?
No
Yes
Prepare Confirmation Presentation
Perform Quality Assurance (QA)
Blueprint Items Consistent ?
Yes
No
Create/Update Association Matrices
Create/Update Component Diagrams
Document/Update Information Architecture Components
Produce Meeting Notes
Follow-up Needed?
Yes
No
Conduct Follow-up
Set-up Interview Meetings
Conduct Interview Meeting
Parking Lot Items ?
Yes
No

PROCESS DETAIL

Set-up Interview Meetings – Once the subject matter experts that are not already part of the documentation team have been identified and the interview strategy has been determined, the Interview meetings can be scheduled. Allow at least two hours per session. No more than two sessions should be set up in the same day to allow Subject Matter Experts attending both sessions to have a break from this style of overarching thinking.

Conduct Interview Meeting – Meetings are typically organized around a specific topic within the subject area scope. The topics were determined during the interview strategy session, which typically happens in one of the first working sessions. At times new topics will surface during the interviews. These should be aligned to the original strategy to assure that all aspects of this topic are addressed in the interviews.

Although everyone will be involved in the interviews from a general view, it helps to give each interviewer an area of focus based on the perspectives of Who, What, Where, When, Why and How. Before the interviews, each interviewer should plan questions based on their assigned perspective. This will help to ensure the coverage of all aspects. It is also helpful to have a separate individual assigned as a scribe. This will allow the interviewers to focus their attention primarily on the interviewing process and less on taking notes.

It is very important that everyone understands that all participants of the interviews are equal. All opinions are valid and important. During the interview is not the time to establish priorities. These interviews are designed to gather and document all viewpoints.

Besides gathering detail from the perspective of the six interrogatives as stated earlier, another useful interview strategy is, for each information component relationship or process that is identified during the interviews, to ask questions that will identify the Supplier, Input Information, Output Information and Customer (SIPOC[10]). This will ensure the appropriate mapping of Process Component to Information Meta Components.

Produce Meeting Notes – Knowledge of who participated in providing the subject matter is very useful. During the interview sessions, Subject Matter Experts or various architecture participants may be asked to follow up with action items or to share documentation and research on specific items. For this reason, notes of these meetings should be taken, reproduced and distributed as with any other formal meeting. Parking lot issues or unresolved items often result during interview meetings. These items need to be compiled, returned to the interviewee for feedback and documented in the interview strategies or in the summary documentation.

Conduct Follow-up – Following interview meetings with subject matter experts, some items may require resolution or additional action. These activities may include, but are not limited to, the following:

- *Changes to Interview Strategy:* Based on interview feedback, the approach and/or strategy of Subject Matter Expert interviews may be changed
- *Resolution of Items:* Dissention or ambiguity may necessitate resolution and/or direction from Architecture Subject Matter Experts, Executives, the IA Manager or Reviewers

[10] SIPOC is a tool used in the Six Sigma methodology. It was originated by Deming & Scholtes.

- *Clarification:* The Documenters may need additional information on a topic
- *Parking Lot Items:* Items that are currently out of the defined scope, but have been identified as potentially requiring future action, should be documented and submitted to the IA Manager.

Document/Update Information Architecture Components – The Documenters capture detail about each of the Information Architecture components such as keywords, critical references, stakeholders and security classifications. The Process Component and Information Meta Component Templates provided at the end of this section are forms that can be used for documenting this detail. See *Process Component Template and Information Meta Component Template.*

Static components (Information Meta Components) and dynamic components (Process Components) are tightly integrated with one another. These components, which are mutually dependent, determine, guide and validate each other. The Process Components provide the process flow, definitions and dynamic business rules The Information Meta Components provide entity definitions, relationships and structural business rules. Table 2 describes the relationships between Process Components and Information Meta Components. This tight integration of purpose for the Process and Information Meta Components guides the NASCIO approach for developing Information Architecture.

Table 2. Process Components and Information Meta Components Relationships

Process Component → Information Meta Component	*Information Meta Component → Process Component*
• Sets the scope of the processing required. • Helps identify the entities in the information component. • The context of the process component helps create the entity definitions. • Iteration in the process may help define cardinality, e.g., one-to-many relationship. • The semantics of the process definition may provide the reasoning behind a relationship. • The sequence of transaction steps identifies existence dependencies for the entity relationships.	• Sets the scope of the information required. • Information component relationships help identify processes. • The context of the information component helps define prerequisites. • Cardinality on relationships may imply the need for iteration in a process. • The data element concept definitions may help clarify the need for a process, and provide a single name and meaning for words in the process definitions.

The Documenters, working with the SMEs capture the Process Component detail**.**

The Information Meta Components, which refer to descriptive information about data, projects, models and multimedia products, are defined by the business SMEs who are most familiar with the business information needs. The Documenters, working with the SMEs capture the Information Meta Component detail**.** The Information Meta Components include, but are not limited to, directories, catalogues, catalogue methods, and dictionaries.

Generally, the 20-year rule, proposed by the National Research Council's Committee on Geophysical Data, has been the major guideline in the development and use of Information Meta Components. The 20-year rule states, "Will someone 20 years from now, not familiar with the data or how it was obtained, be able to find data sets of interest and then fully understand and use the data solely with the aid of the documentation archived with the data set?"

Note that although the components may be used on multiple diagrams and matrices, the detail for each component is documented only once.

Create/Update Component Diagrams - The documenters will place Information Architecture Components on various diagrams to show the flows and relationships. These diagrams should depict the entities, relationships and attributes. Modeling at this stage must maintain a logical level of abstraction and is intended to develop a business information model. Each organization should determine the diagramming technique they are going to use. These diagrams can include, but are not limited to:

- Conceptual ERD / Conceptual Class Diagram
- Data Flow diagram
- IDEF
- State transition
- Process mapping – on flows in process mapping.

Compliance with the organization's modeling standards should be maintained. Logical models may later be translated into physical models that will be used for the solution designs.

Create/Update Association Matrices – As part of the documentation, associations between the information architecture components can be created in the form of matrices. Coordination with the other modelers/documenters should occur so that all components for a specific Information Subject Area are included in the matrices. The process and metadata perspectives should be reviewed to make certain that nothing is missing or incorrectly represented (i.e. ensure that there is no process that utilizes information prior to it being created, and there is no information that is created and never utilized.).

Examples can include:

- Processes that have no corresponding data element/concepts
- Information that has no association with Business Processes
- Information that has no organization/role that utilizes it
- Processes that have no business function they are fulfilling.

Perform Quality Assurance (QA) – The various information architecture documents, models, and matrices require verification by the architecture team prior to confirming them with the Subject Matter Experts. This quality assurance step allows the team to verify that the various information components are utilizing the same lexicon of terms and that the team's understanding of the various components of the information architecture is the same. The team will also verify that the process flows are correct so that information is created prior to being utilized and that all created information is utilized.

Prepare Confirmation Presentation – The Documenters will compile the information from the meeting notes, the documented components, diagrams and associations matrices, and the quality assurance check. The information will be utilized to confirm the accuracy of the information captured and update the various pieces of information to take to the Subject Matter Experts. A summary agenda of the presentation details will aid comprehension of the numerous documents produced. The Documenters need to determine which documents are of most importance for review in a formal meeting and which can be sent-out for review and comments.

Confirm Diagrams/Documents/Matrices – Once the architecture team has verified consistency in how they are defining and representing the various information components, the team will confirm the

models/documents/matrices with the Subject Matter Experts. This should be an interactive session where modifications and enhancements are denoted. Some of the changes can happen right in the session; others take more time and will be conducted in "pick-ups" after the session. If the changes to the models/documentation/ matrices happen outside the session, an electronic copy of the changes should be sent for approval. If the changes were significant, the potential exists to call another meeting to confirm those changes as well.

Finalize Documentation – When the component information has been confirmed, update the status and audit trail detail. The final step is to submit all Information Architecture Component information for inclusion in the Information Architecture documentation.

Process Component Template

TEMPLATE OVERVIEW

Information Architecture Process Components include the definition and gap identification for specific Process Components. The Documenters, along with the Subject Matter Experts, determine the information applicability to the overall architecture effort that will be included in these components. Each Information Architecture Process Component reviewed, whether accepted or rejected, will be documented using this Process Component Template.

The Process Component Template provides an instrument for documenting the Process Component details in an electronic format. The visual representation of the Process Component Template, provided on the following page, is followed by a detailed description of the contents to be captured.

Important items to keep in mind when addressing Process Components are:

- Documentation of the business processes should never go to the procedural or individual person's "desk level".

  If the documentation goes to that level of detail, the documentation has moved from process documentation into procedural documentation. Procedural documentation is too low of a level for an Enterprise Architecture effort. Procedures can be referenced from within the documentation of a process, but the actual procedure should not be included as part of the Information Architecture Blueprint.

- Utilizing a standard of Verb-Noun for naming process steps aids in readability and consistency.

  Example: Capture Licensee Address

  The use of Verb-Noun convention keeps the process/activity step names consistent and easy to read. It can also help to prevent process steps from spanning beyond a single process activity/step.

- The Information Architecture Blueprint is a "living" document.

  A documented process should be confirmed and validated as it is implemented. Changes will occur, and should be documented to correctly reflect the current implementation of the business process.

Process Component

Definition	
Name	
Description	
Rationale	
Benefits	
Component Classification	
Classification	☐ *Baseline* ☐ *Target*
Related Domain / Subject Area	
Business Domain	
Information Subject Area	
Keywords	
Keywords/Aliases	
Process component Type	
Component Type	☐ *Process* ☐ *Process Step*
Process Identifier	
Component Deliverable	

Business Rules		
Owner	*Classification*	*Rule Statement*
	☐ *Baseline* ☐ *Target*	
	☐ *Baseline* ☐ *Target*	

Critical References			
Related Business Components			
Business Architecture Component	*Relationship*	*Business Architecture Component*	*Relationship*
Related Information Components			
Supplier	*Input Information Component*	*Output Information Component*	*Customer*

Stakeholders/Roles			
Stakeholders			
Roles			
Reason for Stake			
RELATED GAP COMPONENT			
Gap Components			
CURRENT STATUS			
Process Component Status	☐ *In Development* ☐ *Under Review* ☐ *Accepted* ☐ *Rejected*		
AUDIT TRAIL			
Creation Date		*Date Accepted / Rejected*	
Created By			
Reason for Rejection			
Last Date Reviewed		*Last Date Updated*	
Updated by			
Reason for Update			

TEMPLATE DETAIL

Definition

Name – Provide the name for the Process. This is typically in verb-noun format.

Description – Document the description of the Process Component in a paragraph or two that provides sufficient clarity to the reader about the component.

Rationale – Document a paragraph or two containing the reason or basis for this Process Component being included within the architecture.

Benefits – Document a paragraph or bulleted statements that provide the benefits associated with the Process Component.

Component Classification

Classification - Provide the classification for the Process Component:

- *Baseline:* The "as is" or "current" state of the component within the enterprise. Baseline indicates the component exists within the enterprise today.
- *Target:* The "to be" or "proposed" state of the component within the enterprise. Target indicates the component should be included or added to the enterprise within a certain scope and timeframe.

Related Domain / Subject Area

Business Domain/Information Subject Area – List the Business Domain or Information Subject Area to which this process belongs. This will ensure the appropriate mapping of Process Component to Business Domain or Information Subject Area.

Keywords / Alias

Keywords/Aliases - List any keywords/alias that can be used to assist in searching the Enterprise Repository for these Process Components. This information will be helpful for anyone that is looking for similar Process Components (i.e. What else is this known as?).

Process Component Type

Component Type – Provide the component type: process or process step component.

Process Identifier – List the process step number or other identifier that indicates the order of the process steps. This information is necessary to provide a link between this supporting detail and the process box on the diagram. There are various numbering schemes that can be used. For example, ISO provides numbering standards. Each enterprise should use the numbering scheme that best suits their environment.

Component Deliverable – To determine the Component Deliverable ask questions such as:

- What does this process produce?
- What is the end product of this process?

Business Rules

When defining the business rules, utilize "rule words," such as:

- Must or Should
- Not
- No
- Only if

Owner – List which business unit is responsible for this business rule.

Classification – Provide the classification for the business rule specifying whether the rule exists today or is proposed for the future.

- *Baseline:* The "as is" or "current" state of the component within the enterprise. Baseline indicates the component exists within the enterprise today.
- *Target:* The "to be" or "proposed" state of the component within the enterprise. Target indicates the component should be included or added to the enterprise within a certain scope and timeframe.

Rule Statement – Provide a statement that defines, constrains, asserts business structure, controls or influences the behavior of the Process Component.

Critical References

This section is documented for any Business or Information Component that is related to this Process Component.

Business Architecture Component – Provide the names of each Business Component that this Process Component is related to. This will ensure the appropriate mapping of Process Component to Business Components.

Relationship – Provide a brief description of the relationship to this specific Process Component.

Related Information Components– For each information component relationship, provide the Supplier, Input Information Component, Output Information Component and Customer (SIPOC[11]). This will ensure the appropriate mapping of Process Component to Information Meta Components.

Stakeholder Information

To identify stakeholders, use questions such as:

- Who is directly impacted by this component or a change to this component?
- Who may have to change the way they do business?
- Who may benefit by the change?

Stakeholders – Provide a list of stakeholders for this Process Component. Stakeholders are those who are affected by or will have an effect on the Process Component. If stakeholder title is not known, provide a description of the role the person or group performs in the Roles section. Stakeholders are typically agencies, departments, etc.

Roles – This section provides a place to present the roles and/or responsibilities for this Process Component. This is especially helpful when a title for the stakeholder is not known. Roles ensure the

[11] SIPOC is a tool used in the Six Sigma methodology. It was originated by Deming & Scholtes.

accountability for all Process Components, ensuring that all stakes in the component are documented when interviewing the Subject Matter Experts. Examples of roles could include Project Manager or Planner, etc.

Roles can also show IT stakeholders that utilize this information, which will provide better service and alignment to the business needs.

Reason for Stake – This optional section provides a place to note the reason that the stakeholder or role has a vested interest in this Process Component. This is helpful when the reason is not apparent or there are specific circumstances that should be noted. Consideration should be given to the interest of the stakeholder and not only to management, for often the same question posed to these groups results in different responses. The information presented here should clarify the relationship of the stakeholders.

Related Gap Component

This section is documented for any Information Architecture Process Component that will be impacted by the move from baseline to target. If nothing will change, the gap statement can just enter a phrase such as "No Gap".

Gap Components – As gaps are identified, list the Gap Components for this Information Architecture Process Component. The Gap Component Template will be used to document the gaps that exist between this Information Architecture Process Component and other Information Architecture Process Component, as well as Impact Statements and Migration Strategies . The gap can be documented from the following perspectives:

- From the perspective of the baseline Information Architecture Process Component that is being updated, replaced or removed when migrating to the target.
- From the perspective of the target Information Architecture Process Component that is being added to replaced or enhanced when migrating from the existing baseline.

Current Status

Document the status of Information Architecture Process Component, indicating whether the component is in development, under review, accepted, or rejected.

- *In Development* – The architecture team is currently drafting and/or reviewing the Process Component content.
- *Under Review* – The architecture team has completed the Process Component documentation and has submitted the documentation to the governing body for inclusion into the architecture
- *Accepted* – The completed Process Component documentation has been approved by the EA governing body and the content is an official part of the architecture. Once accepted into the architecture, the content is referred to as the Blueprint
- *Rejected* – The blueprint has been rejected by the governing body for reasons documented below in the Audit Trail section.

Audit Trail

Creation Date – Provide the date the Information Architecture Process Component was created.

Created By – List all individuals and their titles that helped in the creation of this Process Component.

Date Accepted/Rejected – Provide the date the Information Architecture Process Component was accepted into the architecture or rejected.

Reason for Rejection – If the Information Architecture Process Component was rejected, document the reason for the rejection.

Last Date Reviewed – Document the most recent date the Information Architecture Process Component was taken through the Architecture Vitality Process.

Last Date Updated – Document the most recent date that any item in the Information Architecture Process Component documentation was changed.

Updated By – List all individuals and their titles that helped in the update of this Information Architecture Process Component.

Reason for Update – Document the reason for the update to the Information Architecture Process Component.

Information Meta Component Template

TEMPLATE OVERVIEW

Information Architecture Meta Components include the definition and gap identification for specific metadata components. The Documenters, along with the Subject Matter Experts, determine the information applicability to the overall architecture effort that will be included in these components. Each Information Architecture Meta Component reviewed, whether accepted or rejected, will be documented using this Information Meta Component Template.

The Information Meta Component Template provides an instrument for documenting the Information Meta Component details in an electronic format. The visual representation of the Information Meta Component Template, provided on the following page, is followed by a detailed description of the contents to be captured.

Important items to keep in mind when addressing Information Meta Components are:

- It is not necessary to capture the metadata for every piece of information within the enterprise.

  Metadata can be captured for all information within an enterprise. However, as with everything in Enterprise Architecture, it is important to keep in mind the value of capturing the detail versus the cost of capturing and maintaining that information.

  For metadata on information that is not highly secured or used throughout the cross functional groups within the enterprise, the value of the metadata may not outweigh the cost of collecting, capturing and maintaining it.

- Information exchanges and analytical information are good areas of focus.

  As noted in the reference to the JIEM tool, it is the information exchanges and the analytical information that need the attention to detail in the metadata documentation effort. It is these pieces of information that will cost the enterprise the most if data is not clearly defined and data quality is not maintained.

Information Meta Component

PART 1 – CONCEPTUAL CONTENT *(Data Element/Data Element Concept[12])*	
DEFINITION	
Name	
Industry Description	
Industry Description Provider	
Description	
Rationale	
Benefits	
COMPONENT CLASSIFICATION	
Classification	☐ *Baseline* ☐ *Target*

CRITICAL REFERENCES	
Data Element/Concept	*Relationship*
Process Component	*Relationship*
Application	*Relationship*
Conceptual Information Model	*Link or Identifier*

STAKEHOLDER DETAIL	
Stakeholders	*Reason for Stake*

[12] ISO/IEC 11179-1:1999(E)

INFORMATION SECURITY CLASSIFICATION			
Security Classification			
KEYWORDS			
Keywords / Alias			
VALID VALUES / EXAMPLES			
Valid Values			
Examples of the Data Element/Concept			
BUSINESS RULES			
Owner	*Classification*	*Rule Statement*	
	☐ *Baseline* ☐ *Target*		
	☐ *Baseline* ☐ *Target*		
	☐ *Baseline* ☐ *Target*		
	☐ *Baseline* ☐ *Target*		
CURRENT STATUS			
Data Element/Concept Status	☐ *In Development*	☐ *Under Review*	☐ *Accepted* ☐ *Rejected*
CONCEPT SECTION AUDIT TRAIL			
Creation Date		*Date Accepted / Rejected*	
Created by			
Reason for Rejection			
Last Date Reviewed		*Last Date Updated*	
Updated by			
Reason for Update			

PART 2 – LOGICAL AND PHYSICAL CONTENT (LOGICAL CONTENT)	
ENTITY/CLASS DEFINITION	
Entity/Class Name	
Description	
Source Name	
Source Type	

Critical References	
Logical Information Model	*Link or Identifier*

Related Attributes					
Attribute Name	*Attribute Description*	*Sample Data*	*Representation Class*	*Information Security Classification*	*Information Security Rules*

Relationships					
Relationship Name	*Entity/Class Name (1)*	*Relationship*	*Cardinality*	*Entity/Class Name (2)*	*Relationship Description*

PART 2 – LOGICAL AND PHYSICAL CONTENT (PHYSICAL CONTENT) (Data Dictionary Section)	
TABLE / CONTENT / DOCUMENT DEFINITION	
Table Name/ Content Location	
Description	
Source Name	
Source Type	

Related Columns				
Document Name /Column Name	*Associated Attribute*	*Column Data Type / Length*	*Column Null Indicator*	*Column Comment*

CURRENT STATUS					
Logical/Physical Content Status	☐ *In Development*	☐ *Under Review*	☐ *Accepted*	☐ *Rejected*	
INFORMATION ARCHITECTURE AUDIT TRAIL					
Creation Date		*Date Accepted / Rejected*			
Created by					
Reason for Rejection					
Last Date Reviewed		*Last Date Updated*			
Updated by					
Reason for Update					

TEMPLATE DETAIL

Because the method of capturing the Data Elements/Concepts will vary from organization to organization, this template is designed so that it can be used as two separate templates if that is better suited to the style of an organization. It is up to the discretion of the Documenters in collaboration with their Advisors and Managers to decide the best approach for their organization.

Part 1 of the Information Meta Component Template is designed to capture the business or conceptual view of the Enterprise's information. Part 2 is designed to capture the Logical and Physical views of the information. The conceptual and logical data models must be developed in partnership with the SMEs. Their understanding of the business information, and rules must be fully leveraged in the development of conceptual and logical model. The template is designed for the capture of both structured and unstructured information.

TEMPLATE PART 1 – CONCEPTUAL CONTENT

Definition

Name – Provide the name for Data Element/Data Element Concept.

Industry Description – For Data Elements/Concepts that are industry standards provide the Industry Description. This is optional. If the Data Element/Concept is not an Industry standard, leave this blank and provide the enterprise description under Description.

Industry Description Provider – For Data Element/Concepts that have an industry description provide the group/organization/standards body that provided the description. This is required if Industry Description is provided.

Description – Document the enterprise's description of the Data Element/Concept in a paragraph or two that provides sufficient clarity to the reader about the concept. This is required if no Industry Description was provided.

Rationale – Document a paragraph or two containing the reason or basis for this Data Element/Concept being included within the architecture.

Benefits – Document a paragraph or bulleted statements that provide the benefits associated with the Data Element/Concept.

Component Classification

Classification - Provide the classification for the component:

- *Baseline:* The "as is" or "current" state of the component within the enterprise. Baseline indicates the component exists within the enterprise today.
- *Target:* The "to be" or "proposed" state of the component within the enterprise. Target indicates the component should be included or added to the enterprise within a certain scope and timeframe.

Critical References

Data Element/Concept – List all other Data Element/Concepts to which this Data Element or Data Element Concept is related. For each related Data Element/Concept, provide a brief description of the relationship to this specific Data Element/Concept.

Process Component – Provide the names of each process that this Data Element/Concept is related to. Providing this information will ensure the appropriate mapping of the Information Meta Component to Process Component.

Application – Provide the names of each application that this Data Element/Concept is related to and the relationship. This will ensure the appropriate mapping of the Information Meta Component to Application.

The references listed above are research references only, and are used in identifying items that may need to be escalated to review during gap analysis and migration strategies.

Conceptual Information Model – Provide the names of the Conceptual Information Models on which this Data Element/Concept appears and a link or identifier to indicate where the model can be found.

Stakeholder Detail

To identify stakeholders, use questions such as:

- Who is directly impacted by this component or a change to this component?
- Who may have to change the way they do business?
- Who may benefit financially?

Stakeholders – Provide a list of stakeholders for this Data Element/Concept. Stakeholders are those who are affected by or will have an effect on the Data Element/Concept. Stakeholders are typically agencies, departments, owners, stewards, custodians, etc.

If stakeholder title is not known, provide a description of the role the person or group performs. Roles ensure the accountability for all Data Elements/Concepts, ensuring that all stakes are documented when interviewing the Subject Matter Experts. Roles can also show IT stakeholders that utilize this information, which will provide better service and alignment to the business needs. Examples of roles could include Project Manager or Planner, etc.

Reason for Stake – This optional section provides a place to note the reason that the stakeholder or role has a vested interest in this Information Meta Component. This is helpful when the reason is not apparent or there are specific circumstances that should be noted. Consideration should be given to the interest of the stakeholder and not only to management, for often the same question posed to these groups results in different responses. The information presented here should clarify the relationship of the stakeholders. Please note a stakeholder can have more than one type of stake.

- **Owner -** Originator of the Data Element/Concept and has ultimate responsibility for the definition of the concept.
  - Enforcing the information policies and procedures developed by the Stewards
  - Ensuring the quality of the Data Element Concept.
  - Determining the Security Classification for the Data Element/Concept (who can have access to the Data Element/Concept and the type of access.).
- **Steward –** Responsible for data content.
  - Establishing attributes
  - Ensuring appropriate usage of the data within the rules established by the owner
  - Given the constraints of the owners, the steward can manage the data for the use they need
  - Communicating and verifying new uses for and changes to the data with the data owner
  - Using and managing data in a practical manner.

- **Custodian -** Responsible for assuring integrity of the data captured, for proper handling of data, (not the content), and assures the data is available when needed,:
  - Day to day management of the data
  - The proper handling of the data
  - Ensuring availability, backup, etc
- **Other Stakeholders** - Provide the type of stake and a sentence explaining the stake that the stakeholder / role have in this Data Element Concept. Stake types include:
  - Interested In -Reviews or makes decisions based on the information
  - Authorized to - Creates / Maintains the information
  - Works with - Uses the information to perform activities in their jobs.

Information Security Classification

Security Classification - Provide the Information Security Classification for this Data Element/Concept Each enterprise will use their own agency standards for the classification scheme that will be used to define an appropriate set of protection levels. A typical scheme would have the following classifications:

- Secret
- Confidential
- Sensitive
- Internal Use Only
- Public

Keywords

Keywords/Alias - List any keywords/alias that can be used to assist in searching the Enterprise Repository for these Data Elements/Concepts. This information will be helpful for anyone that is looking for information on similar Data Element/Concepts, i.e. "What else is this known as?"

Valid Values / Examples

Valid Values – If only a specific list of values is acceptable, please list them, or refer to the source of the list of values, i.e. List of Valid State Abbreviations.

Examples of the Data Element/Concept – Provide examples of the Data Element/Concept to aid in clarifying this specific Data Element/Concept from another. For example, if using a Data Element/Concept such as "External Organization", a Valid Value might be "Banks" and an example would be "US Bank".

Business Rules

When defining the business rules, utilize "rule words," such as:

- Must or Should
- Not
- No
- Only if

Owner – List which business unit is responsible for this business rule.

Classification – Provide the classification for the business rule specifying whether the rule exists today or is proposed for the future.

- *Baseline:* The "as is" or "current" state of the component within the enterprise. Baseline indicates the component exists within the enterprise today.
- *Target:* The "to be" or "proposed" state of the component within the enterprise. Target indicates the component should be included or added to the enterprise within a certain scope and timeframe.

Rule Statement – Provide a statement that defines, constrains, asserts business structure, controls or influences the behavior of the Data Element/Concept.

Current Status

Document the status of Data Element/Concept, indicating whether the component is in development, under review, accepted, or rejected.

- *In Development* – The architecture team is currently drafting and/or reviewing the Data Element/Concept content.
- *Under Review* – The architecture team has completed the Data Element/Concept documentation and has submitted the documentation to the governing body for inclusion into the architecture.
- *Accepted* – The completed Data Element/Concept documentation has been approved by the EA governing body and the content is an official part of the architecture. Once accepted into the architecture, the content is referred to as the Blueprint.
- *Rejected* – The Data Element/Concept has been rejected by the governing body for reasons documented below in the Audit Trail section.

Concept Section Audit Trail

Creation Date – Provide the date the Data Element/Concept was created.

Created By – List all individuals and their titles that helped in the creation of this Data Element/Concept.

Date Accepted/Rejected – Provide the date the Data Element/Concept was accepted into the architecture or rejected.

Reason for Rejection – If the Data Element/Concept was rejected, document the reason for the rejection.

Last Date Reviewed – Document the most recent date the Data Element/Concept was taken through the Architecture Vitality Process.

Last Date Updated – Document the most recent date that any item in the Data Element/Concept documentation was changed.

Updated By – List all individuals and their titles that helped in the update of this Data Element/Concept.

Reason for Update – Document the reason for the update to the Data Element/Concept.

TEMPLATE PART 2 – LOGICAL AND PHYSICAL CONTENT

This part of the template is used only for baseline and, during the Solution Architecture, for development of a target solution.

Entity/Class Definition

Repeat as many times as there are entities.

Entity/Class Name – Provide a unique name for the Entity/Class.

Description – Document the Enterprises' description of the Entity in a paragraph or two that provides sufficient clarity to reader about the Entity.

Source Name – The logical source of this entity / attribute where the Entity is related.

Source Type – Provide a statement as to where the entity originated, is utilized, or is the source of authority.

Critical References

Logical Information Model – Provide the names of the Logical Information Models on which this Data Element/Concept appears and a link or identifier to indicate where the model can be found.

Related Attributes

Attribute Name – Provide the attributes for the Entity.

Attribute Description – Provide a description of each attribute .

Sample Data – Provide examples of the information that will be in each attribute.

Representation Class – Provide the representation category - includes data type and size

Information Security Classification – Provide the classification scheme that will be used to define an appropriate set of protection levels.

- Secret
- Confidential
- Sensitive
- Internal Use Only
- Public

Information Security Rules – Provide rules stating when the Information Security Classification needs to be implemented, e.g. when this attribute is combined with other attributes, then it is classified.

Relationships

Each relationship will be documented from two perspectives. For example, documenting a relationship between a manager and an employee would include documentation from the manager perspective as well as from the employee perspective.
Example: Manager employs one or more employees. Employee is employed by one or more managers.

Relationship Name – Provide a name for the relationship to be used as a reference, in the form of Entity/Class1.Entity/Class2.

Example: Manager.Employee

Provide the following for each perspective:

- **Entity/Class Name (1)** – Provide the name of the first entity/class.
- **Relationship** – Provide the relationship between the two entities. The relationship is indicated by use of a verb or verb form (i.e. "employs", "is employed by", etc.)
- **Cardinality** – Provide the rule for the number of instances of the neighbor entity that is related to a single instance of the first entity. Expressed as :

  1:1 - for one instance of the first entity, there is a maximum of one instance of the second entity

  1:M - for one instance of the first entity, there can be many instances of the second entity

  M:M there are many instances of the first entity that have a relationship with many instances of the second entity

- **Entity/Class Name (2)** – Provide the name of the related (neighbor) entity/class.
- **Relationship Definition** – Provide the definition of the relationship in a paragraph or two that provides sufficient clarity regarding the purpose and nature of the relationship.

Table / Content / Document Definition

Repeat as many times as there are tables.

Table Name/Content Location – Provide a unique name for the table, document or content location.

Description – Document the Enterprise's description of the table in a paragraph or two that provides sufficient clarity to the reader about the table.

Source Name – provide the physical source of this table.

Source Type – Provide a statement as to where the entity originated, is utilized, or is the source of authority.

Related Columns

Document Name/Column Name – Unique name of the column as created on this table.

Associated Attribute – Provide a description of each attribute.

Column Data Type / Length – Provide the data type and length for this column. If this is unstructured data (i.e. jpeg, video, etc) note where content or analytic can be found. (E.g. Doc management tool, or an OLAP system)

Column Null Indicator – Please indicate if a record in this table can be created with this column set to "null" (i.e. Optional).

Column Comment – Provide any further information to help clarify the definition / use of this column.

Current Status

Document the status of the Logical/Physical Content, indicating whether the component is in development, under review, accepted, or rejected.

- *In Development* – The architecture team is currently drafting and/or reviewing the component detail.

- *Under Review* – The architecture team has completed the component documentation and has submitted it to the governing body for inclusion into the architecture.
- *Accepted* – The completed template, now known as a blueprint, has been approved by the EA governing body and is now an official part of the architecture.
- *Rejected* – The blueprint has been rejected by the governing body for reasons documented below in the Audit Trail section.

Audit Trail

Creation Date – Provide the date the logical or physical section of this artifact was created.

Created By – List all individuals that helped in the creation of the logical or physical section of this artifact and their titles.

Date Accepted/Rejected – Provide the date the logical or physical section of this artifact was accepted into the architecture or rejected.

Reason for Rejection – If the logical or physical section of this artifact was rejected, document the reason for the rejection.

Last Date Reviewed – Document the most recent date the logical or physical section of this artifact was taken through the Architecture Vitality Process.

Last Date Updated – Document the most recent date that any item in the logical or physical section of this artifact was changed.

Updated By – List all individuals and their titles that helped in the update of this logical or physical section of this artifact were created.

Reason for Update – Document the reason for the update to the logical or physical section of this artifact.

SAMPLES

Information Architecture Blueprint Samples

NASCIO

Process Component

DEFINITION	
Name	Handle Customer Call – Process Component
Description	This process describes the major steps in handling a customer call and providing resolution of that call.
Rationale	This is a primary vehicle to communicate with the citizens, therefore it is significant.
Benefits	Provide quality service to citizens. Improve the efficient and effective delivery of product and services. Enhance agency image an strengthen credibility
COMPONENT CLASSIFICATION	
Classification	☒ Baseline ☐ Target
RELATED DOMAIN / SUBJECT AREA	
Business Domain	Customer
Information Subject Area	Customer
KEYWORDS	
Keywords/Aliases	Customer, customer service, call handling, customer service center, customer service, customer relationship management (CRM), customer service agent, customer service representative, call routing, call center
PROCESS COMPONENT TYPE	
Component Type	☒ Process ☐ Process Step
Process Identifier	P1 (could use predecessor and successor notation, etc.)
Component Deliverable	Completed customer call

BUSINESS RULES		
Owner	*Classification*	*Rule Statement*
Customer Call Center Manager	☒ *Baseline* ☒ *Target*	Agents should acknowledge customer within 5 seconds of call notification
Customer Call Center Manager	☒ *Baseline* ☒ *Target*	Subject of the call must be logged.
Customer Call Center Manager	☒ *Baseline* ☒ *Target*	If repeat call, then call history should be reviewed

Customer Call Center Manager	☒ *Baseline* ☒ *Target*	Resolution/commitment must be verified with customer

CRITICAL REFERENCES			
Related Business Components			
Business Architecture Component	*Relationship*	*Business Architecture Component*	*Relationship*
Build Public Trust	Enabler for building trust		
Service Delivery	This process component (Handling Call) directly supports call center consolidation goal		
Related Information Components			
Supplier	*Input Information Component*	*Output Information Component*	*Consumer*
Caller	Contact information	• Call statistics	• Caller • Action Agent • Call Center Management
Caller	Request	• Call statistics • Resolution	• Caller
Stakeholders/Roles			
Stakeholders	Call Center, Executive Branch		
Roles	Consumer, citizen, governor, attorney general		
Reason for Stake	Executive branch because they will hear from constituents.		
RELATED GAP COMPONENT			
GAP Components	Redundant call data		
CURRENT STATUS			
Process Component Status	☒ *In Development* ☐ *Under Review* ☐ *Accepted* ☐ *Rejected*		
AUDIT TRAIL			
Creation Date	05/13/04	*Date Accepted / Rejected*	
Created By			
Reason for Rejection			
Last Date Reviewed		*Last Date Updated*	
Updated by			
Reason for Update			

Information Meta Component

PART 1 – CONCEPTUAL CONTENT *(Data Element/Data Element Concept)*	
DEFINITION	
Name	Call (Information Meta Component - Conceptual)
Industry Description	A transaction between a caller and a call agent, independent of the medium (telephone, web, video, mail, pda, instant message, etc)
Industry Description Provider	Call Center Industry Advisory Council (CIAC)
Description	
Rationale	Primary mechanism for gathering and disseminating information.
Benefits	Identifies the process supplier, consumer, nature of request
COMPONENT CLASSIFICATION	
Classification	☒ *Baseline* ☒ *Target*
CRITICAL REFERENCES	
Data Element Concept	*Relationship*
Media	The call must be able to process all customer contact media
Process Component	*Relationship*
Handle Customer Call	Primary data element
Application	*Relationship*
CRM package	Captures call data
Interactive Voice Response Unit (IVR)	Initial data gathering
Automatic Call Distributor (ACD)	Identifies agent and routes call, based on call data
Quality Assurance Package	Collects and analyses call data
Conceptual Information Model	*Link or Identifier*
Call – Conceptual Model	Samples – Conceptual Information Model

STAKEHOLDERS	
Stakeholders	*Reason for Stake*
Call Center Lead	Owner
ABC Company (Outsourcing agency)	Steward
Marketing Department	Steward
Database Administrator	Custodian
Governor	Assures Citizen Satisfaction

INFORMATION SECURITY CLASSIFICATION	
Security Classification	Public

KEYWORDS AND ALIAS	
Keywords / Alias	Customer contact, Call processing, transaction

VALID VALUES / EXAMPLES	
Valid Values	
Examples of the Data Element Concept	Emergency calls Tourist calls Legislative calls

BUSINESS RULES		
Owner	*Classification*	*Rule Statement*
Call center manager	☒ *Baseline* ☒ *Target*	All information needed to resolve call will be captured with initial contact
	☐ *Baseline* ☐ *Target*	
	☐ *Baseline* ☐ *Target*	

CURRENT STATUS				
Data Element/Concept Status	☒ *In Development*	☐ *Under Review*	☐ *Accepted*	☐ *Rejected*

CONCEPT SECTION AUDIT TRAIL			
Creation Date	05/13/04	*Date Accepted / Rejected*	
Created by			
Reason for Rejection			
Last Date Reviewed		*Last Date Updated*	
Updated by			
Reason for Update			

Information Meta Component

PART 1 – CONCEPTUAL CONTENT *(Data Element/Data Element Concept)*	
DEFINITION	
Name	Caller (Information Meta Component - Conceptual)
Industry Description	
Industry Description Provider	
Description	The party that calls the call center
Rationale	
Benefits	
COMPONENT CLASSIFICATION	
Classification	☒ *Baseline* ☒ *Target*

CRITICAL REFERENCES	
Data Element Concept	*Relationship*
Call	Primary concept
Process Component	*Relationship*
Handle Customer Call	Primary data element
Application	*Relationship*
CRM package	Captures call data
Interactive Voice Response Unit (IVR)	Initial data gathering
Automatic Call Distributor (ACD)	Identifies agent and routes call, based on call data
Quality Assurance Package	Collects and analyses call data
Conceptual Information Model	*Link or Identifier*
Party - Conceptual Diagram	Sample – Conceptual Information Model

STAKEHOLDERS	
Stakeholders	*Reason for Stake*
Call Center Lead	Owner
ABC Company (Outsourcing agency)	Steward
Marketing Department	Steward
Database Administrator	Custodian
Governor	Assures Citizen Satisfaction

INFORMATION SECURITY CLASSIFICATION			
Security Classification	Sensitive		
KEYWORDS AND ALIAS			
Keywords / Alias	Customer, contact, citizen, caller, requestor		
VALID VALUES / EXAMPLES			
Valid Values	Any		
Examples of the Data Element Concept	Bob H. Smith Tate's Rentals		
BUSINESS RULES			
Owner	*Classification*	*Rule Statement*	
Call Center manager	☒ *Baseline* ☒ *Target*	Individual caller names must be captured in First Name, Middle Initial, and Last Name format.	
Call Center Manager	☐ *Baseline* ☐ *Target*	Individual caller names must not include Company Names only Proper Names.	
Call Center Manager	☐ *Baseline* ☐ *Target*	Individual callers calling on behalf of a company must provide their name. The company they are calling on behalf of must be denoted as well.	
	☐ *Baseline* ☐ *Target*		
CURRENT STATUS			
Data Element/Concept Status	☒ *In Development* ☐ *Under Review* ☐ *Accepted* ☐ *Rejected*		
CONCEPT SECTION AUDIT TRAIL			
Creation Date	05/13/04	*Date Accepted / Rejected*	
Created by			
Reason for Rejection			
Last Date Reviewed		*Last Date Updated*	
Updated by			
Reason for Update			

PART 2 – LOGICAL AND PHYSICAL CONTENT (LOGICAL CONTENT)	
ENTITY/CLASS DEFINITION	
Entity/Class Name	Party (Information Meta Component – Logical)
Description	A person who interacts with the government entity in some capacity
Source Name	Party Management Database
Source Type	Oracle Database, Siebel Software

Critical References	
Logical Information Model	*Link or Identifier*
Party – Logical Model (Alternative A)	Samples – Logical Information Models (Sample 1)
Party – Logical Model (Alternative B)	Samples – Logical Information Models (Sample 2)

Related Attributes

Attribute Name	*Attribute Description*	*Sample Data*	*Representation Class*	*Information Security Classification*	*Information Security Rules*
Party Code	Unique identification of Party	1234567	Unique Key	Internal Use Only	Only used by internal systems
First Name	First Name of the Party	Bob Kathy	Name Class	Public / Internal Use Only	If first name, middle initial, and last name are combined then this attribute is classified: Internal Use Only
Middle Initial	One character initial of the party's middle name.	H E			If first name, middle initial, and last name are combined then this attribute is classified: Internal Use Only
Last Name	Last name of the Party	Smith Jones	Name Class		If first name, middle initial, and last name are combined then this attribute is classified: Internal Use Only
Picture	Picture of Party		Content	Sensitive	If combined with party type 'criminal' then classification is Public

Relationships					
Relationship Name	*Entity/Class Name (1)*	*Relationship*	*Cardinality*	*Entity/Class Name (2)*	*Relationship Description*
Party.Business Partner	Party	represents	1:1	Business Partner	Provides information regarding agent relationship of Party. A Party must represent one and only one Business Partner.
	Business Partner	is represented by	1:M	Party	Provides information regarding agent relationship of Party. A Business Partner must be represented by at least one Party. A Business Partner could be represented by many instances of Party.
Party.Party Assignment	Party	defines	1:M	Party Assignment	A Party must define one or many Party Assignments. e.g., a Party can be a "Citizen" and a "Taxpayer". A Party must have at least one Party Assignment.
	Party Assignment	is defined by	1:1	Party	Existence of a Party Assignment requires a relationship to one and only one Party. An instance of Party Assignment can pertain to only one Party instance.
Party.Address	Party	resides at	1:M	Address	A Party must have at least one residence. A Party can have many residents.
	Address	is residence for	1:1	Party	An instance of Address can pertain to one and only one Party. As instance of Address must pertain to at least one Party. (Note: Party Address is an Attributive Entity of Party.)

PART 2 – LOGICAL AND PHYSICAL CONTENT (LOGICAL CONTENT)					
ENTITY DEFINITION					
Entity/Class Name	Party Type (Information Meta Component – Logical)				
Description	Provides the means to identify the Party by the role they play with in the enterprise. A given party can play more than one role in the enterprise. For example a Party can play both the role of a "Citizen" and a "Tourist"				
Source Name	Party Management Database				
Source Type	Oracle Database, Siebel Software				
Critical References					
Logical Information Model		*Link or Identifier*			
Related Attributes					
Attribute Name	*Attribute Description*	*Sample Data*	*Representation Class*	*Information Security Classification*	*Information Security Rules*
Party Type	Includes the various types of parties that could interact with the government	Citizen Non-citizen Tourist Criminal Taxpayer	Type Class	Public , Sensitive	If party type is combined with party identification then Party Type is classified as Sensitive information.
Party Type Description	Provide description for the party type	A citizen is anyone through either birth or naturalization possesses rights and obligations of citizenship.	Name Class	Public	

PART 2 – LOGICAL AND PHYSICAL CONTENT (LOGICAL CONTENT)	
ENTITY DEFINITION	
Entity/Class Name	Party Type Assignment (Information Meta Component – Logical)
Description	Assigns the party type to the Party. This allows an individual party to be identified with the party types they are in the enterprise.
Source Name	Party Management Database
Source Type	Oracle Database, Siebel Software

Critical References	
Logical Information Model	*Link or Identifier*

Related Attributes

Attribute Name	*Attribute Description*	*Sample Data*	*Representation Class*	*Information Security Classification*	*Information Security Rules*
Party Type.Code	Includes the various types of parties that could interact with the government	Citizen Non-citizen Tourist Criminal Taxpayer	Type Class	Public , Sensitive	If party type is combined with party identification then Party Type is classified as Sensitive information.
Party.Code	Unique identification of Party	1234567	Unique Key	Internal Use Only	Only used by internal systems

Relationships					
Relationship Name	*Entity/Class Name (1)*	*Relationship*	*Cardinality*	*Entity/Class Name (2)*	*Relationship Description*
Party Type.Party Assignment	Party Type	defines	1:M	Party Assignment	Existence of an instance of Party must define one or many instances of Party Assignment. e.g., a Party can be a “citizen” and a “taxpayer.” A Party must be at least one Party Type.
	Party Assignment	is defined by	1:1	Party Type	The existence of an instance of Party Assignment requires a relationship to one and only one Party.

PART 2 – LOGICAL AND PHYSICAL CONTENT (LOGICAL CONTENT)	
ENTITY DEFINITION	
Entity/Class Name	Party Address (Information Meta Component – Logical)
Description	A Party Address is a location where a person can be contacted directly or indirectly. Also allows the address to be given a primary address type. Provides the ability to capture the various addresses for a party.
Source Name	Party Management Database
Source Type	Oracle Database, Siebel Software

Critical References	
Logical Information Model	*Link or Identifier*

Related Attributes					
Attribute Name	*Attribute Description*	*Sample Data*	*Representation Class*	*Information Security Classification*	*Information Security Rules*
Party Address Identifier	The system assigned identifier that uniquely identifies a Party Address	1234567	Unique Key	Internal Use Only	Only used by internal systems
Party Identifier	Unique identification of Party	1234567	Unique Key	Internal Use Only	Only used by internal systems
Primary Address Type	Identifies if this address associated with a given Party is the home address or the work address	Home Work	Type Class	Public	
Address Line 1	Provide the first Address Line of the Party	1501 South Idaho Street	Address Line Class	Sensitive	
Address Line 2	Provide the second Address Line of the Party	Suite 200; Mail Stop 5	Address Line Class	Sensitive	
City	Provide the City in which the address can be found	Boise	City Class	Public, Sensitive	City when combined with address lines is classified as Sensitive information
State Province	Provide the state or province in which the city is located.	Idaho	State Class	Public, Sensitive	When combined with address lines is classified as Sensitive

Address Begin Date	The business date that the Address became effective.	January 15, 1987	Date/time	None	
Address End Date	The business date after which the Address is no longer effective.	December 12, 1992	Date/time	None	

Relationships					
Relationship Name	*Entity/Class Name (1)*	*Relationship*	*Cardinality*	*Entity/Class Name (2)*	*Relationship Description*

PART 2 – LOGICAL AND PHYSICAL CONTENT (PHYSICAL CONTENT) (DATA DICTIONARY SECTION)	
TABLE / CONTENT / DOCUMENT DEFINITION	
Table Name/ Content Location	Customer_Name_P (Information Meta Component – Physical)
Description	Customer Name physical table provides the structure to capture customer name information separate from customer address information.
Source Name	Customer_DB
Source Type	Oracle 9.1

Related Columns

Document Name /Column Name	*Associated Attribute*	*Column Data Type / Length*	*Column Null Indicator*	*Column Comment*
CUSTOMER_ID	Party Identifier	NUMERIC,7.0	NON_NULL	Primary key for the Customer ID
PRIMARY_CUSTOMER_ROLE	Party Type	ALPHA-NUMERIC, CHAR10	NULLABLE	Denotes if customer has preferred role they want to be associated with for information presentation
CUSTOMER_FIRST_NAME	First Name	ALPHA-NUMERIC, CHAR50	NULLABLE	Captures Customer First Name , No updates allowed to field if new name must create new customer record.
CUSTOMER_MIDDLE_INITIAL	Middle Initial	ALPHA-NUMERIC, CHAR50	NULLABLE	Captures Customer Middle Initial No updates allowed to field if new name must create new customer record.
CUSTOMER_LAST_NAME	Last Name	ALPHA-NUMERIC, CHAR50	NULLABLE	Captures Customer Last Name No updates allowed to field if new name must create new customer record.
BUSINESS_CUSTOMER_NAME	Company Name	ALPHA-NUMERIC, CHAR50	NULLABLE	Captures Customer Last Name No updates allowed to field if new name must create new customer record.

CUSTOMER_DUNNS_NUMBER		ALPHA-NUMERIC, CHAR25	NULLIBLE	For business customers a Dunns and Bradstreet ID must be denoted.
CREATION_DATE				
UPDATE_DATE				

PART 2 – LOGICAL AND PHYSICAL CONTENT (PHYSICAL CONTENT) (DATA DICTIONARY SECTION)	
TABLE / CONTENT / DOCUMENT DEFINITION	
Table Name/ Content Location	Customer_Address (Information Meta Component – Physical)
Description	Customer Address physical table provides the structure to capture customer address information. A given customer record captured in the Customer_Name physical table can have multiple addresses associated with it.
Source Name	Customer_DB
Source Type	Oracle 9.1

Related Columns

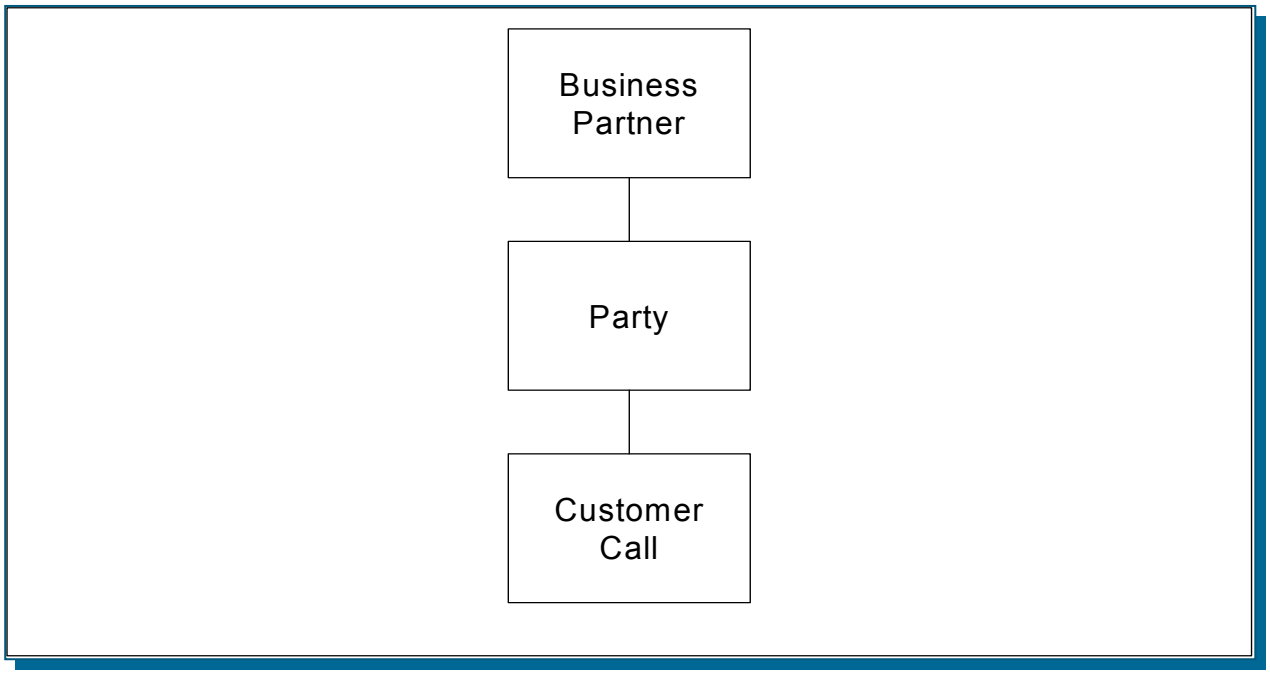
Document Name /Column Name	*Associated Attribute*	*Column Data Type / Length*	*Column Null Indicator*	*Column Comment*
Party Address Identifier	Party Address Identifier	NUMERIC,7.0	NON_NULL	Primary key for the Customer Address Table
Party Identifier	Party Identifier	NUMERIC,7.0	NON_NULL	Provides a foreign key relationship to the Customer Name table.
Customer_Address_Role	Primary Address Type	ALPHA-NUMERIC, CHAR10	NULLABLE	Provides a categorization of the usage of the address. Examples can include home mailing address, billing address, shipping address
Address_Line_1	Address Line 1	ALPHA-NUMERIC, CHAR50	NULLABLE	Captures Customer Address line 1 information
Address_Line_2	Address Line 2	ALPHA-NUMERIC, CHAR50	NULLABLE	Captures Customer address line 2 information
City	City	ALPHA-NUMERIC, CHAR50	NULLABLE	Captures City associated with Customer Address.
State Province	State Province	ALPHA-NUMERIC, CHAR4	NULLIBLE	Captures standardized State or Province Codes from ISO
Creation_Date		TIMESTAMP	NON_NULLIBLE	Creation date of the Customer Address Record
Update_Date		TIMESTAMP	NULLIBLE	Last update date of the Customer Address Record

PART 2 – LOGICAL AND PHYSICAL CONTENT (PHYSICAL CONTENT) (DATA DICTIONARY SECTION)				
TABLE / CONTENT / DOCUMENT DEFINITION				
Table Name/ Content Location	Criminal Picture Library (Information Meta Component – Physical)			
Description	Criminal Picture Library provides storage of pictures for all prison inmates from 2/01/1997 until current.			
Source Name	Alphabetical Criminal Picture Folders			
Source Type	Windows NT Server			
Related Columns				
Document Name /Column Name	*Associated Attribute*	*Column Data Type / Length*	*Column Null Indicator*	*Column Comment*
{InmateID}.jpg	*Picture*	.jpg		These files contain the pictures of inmates. Pictures are retaken annually. History of all pictures can be found in the library based on archiving rules.

CURRENT STATUS					
Logical/Physical Content Status	☒ *In Development*	☐ *Under Review*	☐ *Approved*	☐ *Rejected*	
INFORMATION ARCHITECTURE AUDIT TRAIL					
Creation Date	5/12/04		*Date Accepted / Rejected*		
Created by					
Reason for Rejection					
Last Date Reviewed			*Last Date Updated*		
Updated by					
Reason for Update					

Conceptual Information Model

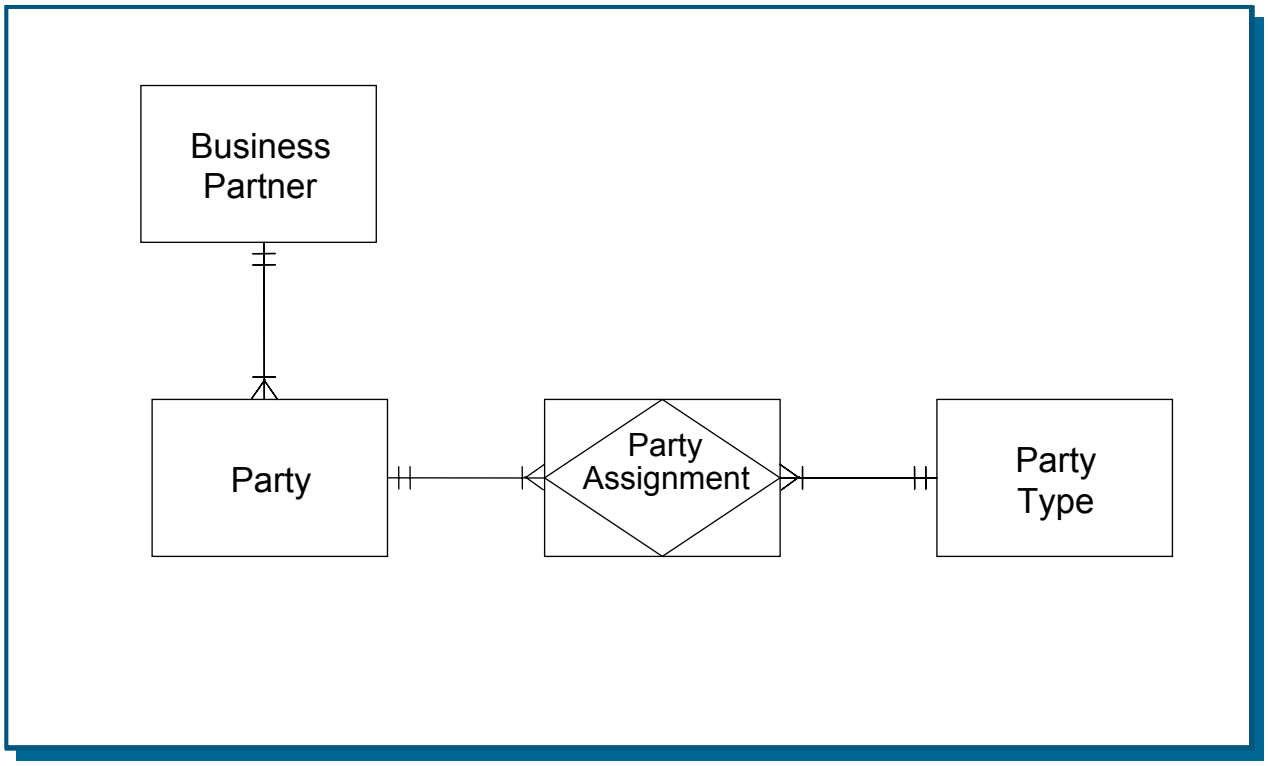
This diagram is referenced in the Blueprint sample: Party (Information Meta Component - Conceptual)



Logical Information Models

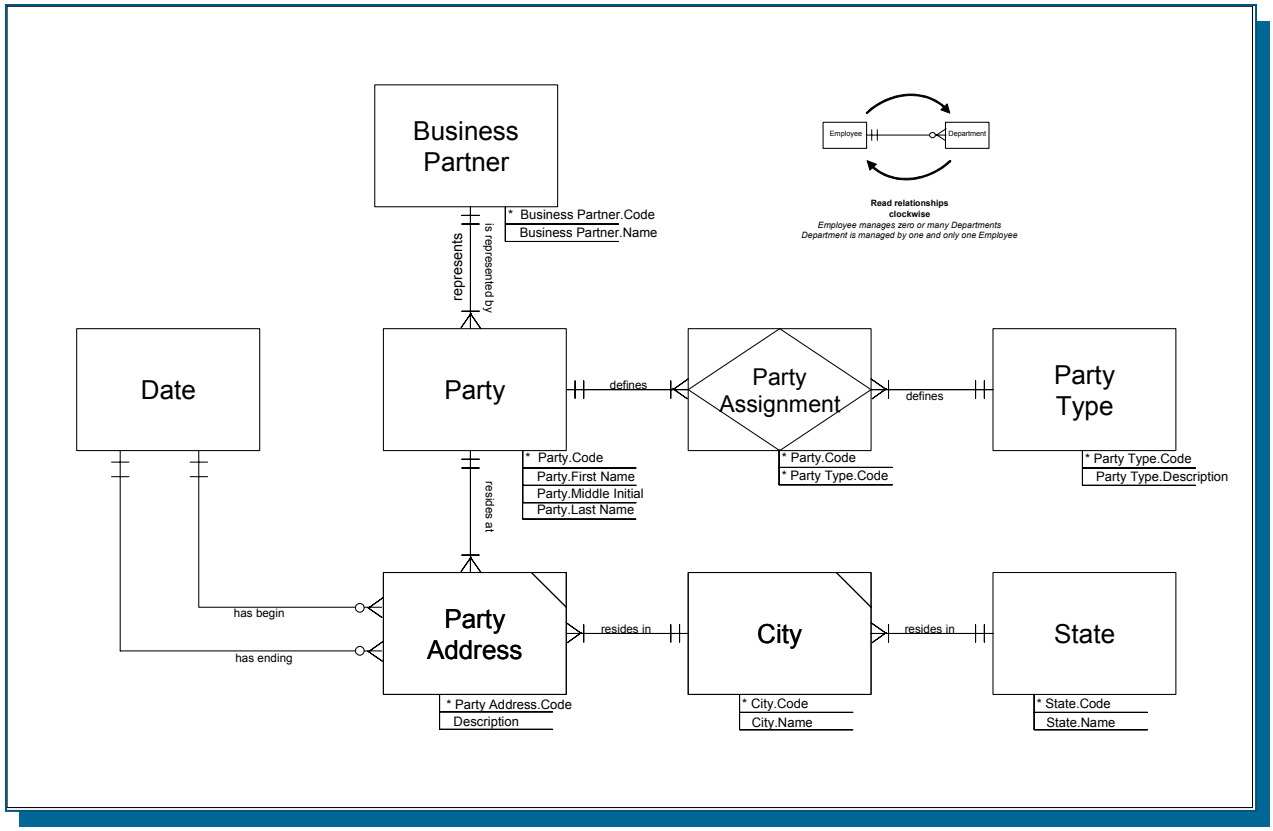
SAMPLE 1 – ALTERNATIVE A

This diagram is referenced in the Blueprint sample: Party (Information Meta Component – Logical)



SAMPLE 2 – ALTERNATIVE B

This diagram is referenced in the Blueprint sample: Party (Information Meta Component – Logical)
Note: Optionally modify the templates to accommodate graphical representations such as process models, data models, organizational charts, business interaction models, Rummler-Brache cross functional flow charts, etc.



SUMMARY/CONCLUSION

The Information Architecture provides a business-based framework for developing solutions that operate across agencies and within the lines of business of state and local governments.

It is through the pursuit of a formal Information Architecture that the following are provided:

- A demonstrable, repeatable approach to assuring critical information exchange throughout the enterprise
- A clear understanding of the enterprise's current and future direction
- Identification of opportunities to leverage linkage across government-wide entities and increase collaboration and sharing of information
- A means to increase information re-use and reduce information redundancy throughout the enterprise.

The Information Architecture identifies and inter-relates the information assets of the enterprise to enable sharing and exchange of critical information. Though enterprise typically refers to the organization as a whole, the development of Information Architecture can also be accomplished at an agency level. For example, in North Carolina, Information Architecture is primarily done by the agencies with only a portion of the information provided at the enterprise (statewide) level.

JUSTICE INFORMATION EXCHANGE MODEL

The Justice Information Exchange Model (JIEM) consists of a conceptual framework that defines universal dimensions of information exchange, a research and planning methodology for modeling the operational dynamics of this information exchange, and a Web-based software application (the JIEM Modeling Tool) that enables data collection, analysis, and reporting by users and researchers.[13]

SEARCH, The National Consortium of Justice Information and Statistics, developed this web-based tool to aid cities, counties and states in the development of information exchange elements within the justice arena.

The JIEM tool facilitates the documentation of the following characteristics:

- *Process* – Logically related events that are associated with an information exchange. These processes begin and end with an event and may contain multiple events.
- *Event* – There are two types of events (triggering and subsequent). A triggering event is a decision or action that causes the exchange of information. By contrast, a subsequent event is the next logical step in the process, which results from the information exchange.
- *Agency* – The entity that sends or receives information. While not all agencies may be involved in the initial transaction or exchange of information, the detail gathered during that interaction could be used by many other entities. The tool supports the identification of all agencies that have an interest in the data.
- *Condition* – The factor that affects the content or direction of the information exchange. Conditions basically determine what agencies receive specific information as part of the overall business process.
- *Information* – The content that is actually exchanged between entities. The information may include documents and/or specific data elements, images, video, etc. and can be exchanged via paper, electronic medium, and/or other forms of communication.

By focusing on the identification of key decision points, and the information that flows between various justice entities at critical exchange points, the tool provides an enterprise-wide view of the exchange of information and empowers agencies to share information more efficiently, thereby increasing the safety and security of both employees and the general public.

One of the key benefits of this tool is the incorporation of a Global Justice XML Data Dictionary. This allows users to import data types and structures directly from the dictionary, eliminating the concerns around naming, data types and field size elements.

While the JIEM tool was created specifically for meeting the needs of the courts and justice agencies, the methodologies for capturing the detailed information surrounding the processes, events, agencies, information and conditions apply to any organization that is striving to focus on the enterprise-wide exchange of information.

[13] http://www.search.org/integration/pdf/JIEM.pdf

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Visit NASCIO on the web for the latest information on the Architecture Program or to download the current version of the Enterprise Architecture Development Tool-Kit.

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