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## ***Part I — Business Architecture***

### ***Chapter 1 — Business Architecture Introduction***

#### **Introduction**

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The Medicaid IT Architecture (MITA) Framework 2.0 comprises three parts: a Business Architecture (BA), an Information Architecture (IA), and a Technical Architecture (TA), as shown in **Figure 1-1**. This chapter introduces Part I — Business Architecture.



***Figure 1-1. MITA Framework Relationship Diagram***

The objective of this chapter is to answer the following questions:

- What are the components of the Business Architecture?
- What is the relationship among the components of the Business Architecture?
- What is the relationship of the Business Architecture to the Information and Technical Architectures?

#### ***Purpose***

The starting point of the MITA Framework is the BA, in keeping with the guiding principle that MITA “represents a business-driven enterprise transformation.” The BA describes the needs and goals of individual States and presents a collective vision of the future.

#### ***Scope***

The BA focuses on the Medicaid enterprise. The Medicaid enterprise is defined in the MITA context as (1) the domain in which Federal matching funds apply; (2) the interfaces and bridges among Medicaid stakeholders, including providers, beneficiaries, other State and local agencies, other payers, Centers for Medicare & Medicaid Services (CMS), and other Federal agencies; and (3) the sphere of influence touched by MITA (e.g., national and Federal initiatives such as the National Health Information Infrastructure [NHII]). (See Overview of the MITA Initiative in the front section of this document for a discussion of the Medicaid enterprise.)

*Enterprise* can have other meanings. For instance, *Enterprise Architecture* refers to the body of standards that States adopt, usually through a Chief Information Officer (CIO) authority, and to which all affected State agencies must adhere.

The BA acknowledges technology as one of several enablers that are important to growth and transformation, but it does not introduce technical implementations or solutions into the BA components. All technical references are found in Part III — Technical Architecture.

## Background

Each State and the District of Columbia (DC) is responsible for its individual Medicaid enterprise, and all 51 entities are different in important ways. Differences include organizational structure, covered programs, and lines of business; business rules, policies, and procedures affecting stakeholders; relationships with other State and local agencies; revenue sources; location of business units; workflow; range of outsourcing; and technical solutions. These entities also differ in their concept of an enterprise, the roles and responsibilities of one or more Chief Information Officers (CIOs), adoption of data and technical standards, and the use of legacy versus state-of-the-art applications.

Given these differences, it is not possible or desirable, in the context of the MITA Framework, to develop a standalone business and technical model for each individual Medicaid enterprise. Instead, a national Framework of common processes and enabling technologies has been established to support improved program administration in all States. The BA focuses on areas of common ground (e.g., that all States must enroll providers and pay for services rendered to eligible beneficiaries and that all States seek to improve healthcare outcomes and improve administrative processes).

There is no ready-made methodology for building the MITA Framework to accommodate the business needs and transformation strategies of the 50 States and DC. To meet the special needs of MITA, the components included in the BA draw upon methodologies commonly in use today across industries as diverse as financial, transportation, and defense. The MITA templates and models are designed to help States identify and prioritize their specific business needs.

The BA section of the MITA Framework shows how MITA incorporates business-driven design to accomplish the following:

- Support State needs
  - Align with State strategic goals
  - Align with State or Medicaid agency enterprise architecture
- Support the CMS and common State goals
  - Align State approaches with MITA
  - Accommodate multi-State collaborative initiatives


- Support national goals through alignment with national initiatives, such as the Office of the National Coordinator for Health Information Technology (ONC) and Federal guidelines (e.g., Federal Health Architecture, the Federal Enterprise Architecture Framework, and national/international data standards)


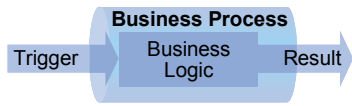
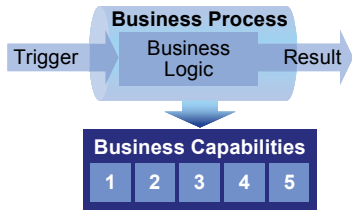
## What Are the Components of the Business Architecture?

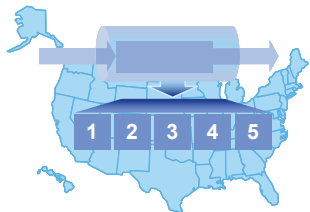
The BA is a conceptual construct that comprises models, matrices, and templates. These components derive from a variety of industry standards because no single methodology exists that meets the scope of MITA. In a way, the MITA Framework is breaking new ground and may be used as a model for other Federal, State, and local entities that share similar relationships.

As stated previously, the MITA Framework focuses on the common ground shared by 51 distinct Medicaid enterprises and accommodates their differences. The BA consists of five components that are summarized in **Table 1-1**. Each component of the BA is described in more detail below.

**Table 1-1. The Five Components of the Business Architecture. The Business Architecture Is a Composite of Interrelated Models and Templates**

Component	Type of Model	Function	Relationship
Concept of Operations (COO) 	The COO is a model used to describe current operations, a vision of transformation, transformations to stakeholder roles and information exchanges, and the influence of enablers (e.g., new policy, legislation, technology).	<ul style="list-style-type: none"> <li>■ Establishes a vision for transformation of the Medicaid enterprise</li> <li>■ Links enablers to the improvements in business processes</li> <li>■ Shows how stakeholders' roles change</li> <li>■ Shows how processes and data change</li> <li>■ Focuses on improvements in the Medicaid agency's operations</li> </ul>	<ul style="list-style-type: none"> <li>■ Establishes the targets and vision that other BA components address</li> <li>■ Provides a platform and grounding for the MITA Maturity Model and the Business Capability Matrix</li> </ul>

Component	Type of Model	Function	Relationship
<p>MITA Maturity Model (MMM)</p> 	<p>Subdivided into five levels of progressive maturity, the MMM is a tool used to illustrate how goals, objectives, and business capabilities progress are transformed over a prescribed period of time.</p>	<ul style="list-style-type: none"> <li>Shows how Medicaid enterprise goals and objectives are met and how business areas improve over a time span of 10+ years</li> <li>Provides base, consistency, and measures for specifying detailed business capabilities as they mature</li> </ul>	<ul style="list-style-type: none"> <li>Puts the COO vision into a structure to be used in building the Business Capability Matrix</li> <li>Provides a framework and model for the business capabilities</li> </ul>
<p>Business Process Model (BPM)</p> 	<p>The BPM is a repository of business processes common to most Medicaid programs. A template is used to capture the description of each business process. The business processes cover current and near-term operations, some of which are suggested for the future.</p>	<ul style="list-style-type: none"> <li>Provides a model of major business areas and subareas</li> <li>Provides detailed definitions of common business processes</li> <li>Describes business processes using a common vocabulary</li> <li>Renders some business processes obsolete at higher levels of maturity</li> </ul>	<ul style="list-style-type: none"> <li>Derived from the State Systems Technical Advisory Group (S-TAG) redesign of the Medicaid Management Information System (MMIS) model, various State models, and the Medicaid HIPAA-Compliant Concept Model (MHCCM)</li> <li>Business processes under review by the National Medicaid EDI HIPAA (NMEH) MITA subworkgroup</li> <li>Review and refinement process under continual review by States</li> </ul>
<p>Business Capability Matrix (BCM)</p> 	<p>Subdivided into five levels of maturity, the BCM applies the MMM to the BPM to derive capabilities for each business process at each maturity level. The BCM describes how a business process is transformed (and improved) over time.</p>	<ul style="list-style-type: none"> <li>Shows how each business process can improve over a time span of 10+ years</li> <li>Provides consistency and a model for States to use in measuring their own levels of maturity for each business process</li> </ul>	<ul style="list-style-type: none"> <li>There is at least one business capability for each business process</li> <li>Links to the MMM for the description of the characteristics of the maturity levels</li> <li>Forms the basis for the State Self-Assessment</li> </ul>

Component	Type of Model	Function	Relationship
State Self-Assessment (SS-A) 	The SS-A is the process by which a State uses the BPM to determine the level of maturity of its current operations and specify targets for improvement at higher levels of maturity.	<ul style="list-style-type: none"> <li>Will be required as an attachment for future Advance Planning Document (APD) submissions</li> <li>Becomes a roadmap for future business transformation</li> <li>Is part of the Medicaid agency's strategic plan</li> </ul>	<ul style="list-style-type: none"> <li>The State uses the BCM as the basis for the SS-A</li> <li>State can refer to the MMM for additional background on the capability definitions</li> </ul>

## The Concept of Operations



The Concept of Operations (COO) is a tool used to describe current business operations and to envision a future transformation that meets the needs of stakeholders and responds to enablers (e.g., new policy, legislation, and technology). The COO is used in other industries (e.g., the Department of Defense [DoD] or National Aeronautics and Space Administration [NASA]) as a strategic-planning device to capture the As-Is (i.e., current) context, create the To-Be (i.e., future) vision, and level-set expectations before engaging in major transformation projects. The COO provides a structure in which to place information gathered from interviews with States and visioning sessions conducted at Medicaid Management Information System (MMIS) conferences. The COO structure calls for the following documentation:

- Definition of As-Is operations
- Identification of current stakeholders
- Identification of major data exchanges among stakeholders
- Listing of key enablers with an estimate of time of impact
- Description of To-Be operations

The goal of the COO is to project changes and transformations and to envision To-Be operations and new roles and data exchanges for stakeholders. For MITA, this process requires adapting the industry COO to a milieu in which a common vision is shared by CMS and the States, while preserving individual adaptations at the State level.

Part I Chapter 2, Concept of Operations, provides more information on the Medicaid enterprise COO. Part I Appendix A, Concept of Operations Details, contains additional background information.

## The MITA Maturity Model

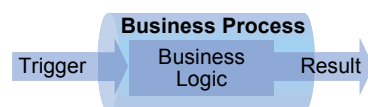


The MITA Maturity Model (MMM) is derived from industries that use such models to illustrate how a business can mature over time. The MMM adapts the industry model to the Medicaid enterprise by describing Medicaid program goals and objectives and MITA technical principles as they are expected to mature over a period of approximately 10+ years. This 10-year span is subdivided into five periods, each of which represents significant advances over the previous period.

The MMM generally describes the five levels of maturity and the measurable qualities that each level should demonstrate. The general description is at a high enough level to apply to most aspects of Medicaid operations. For example, the MMM states that, at Level 1, the business area or process is characterized by compliance with current regulations. At Level 2, the process matures because of pressures for cost containment and availability of newer tools. At Level 3, noticeable improvement occurs in the sharing of information and processes among multiple entities, including the beneficiary. At Level 4, instant availability of clinical information increases the transformation. By Level 5, States and local agencies have become interoperable across the country.

The MMM is the point of reference for the Business Capability Matrix (BCM). The BCM aligns with the MMM to maintain consistency of definition. The details of the MMM are presented in Part I Chapter 3, Maturity Model, and the complete text is found in Part I Appendix B, Maturity Model Details.

## The Business Process Model



The Business Process Model (BPM) is a repository of common business processes common to most Medicaid programs. A template describes those processes, including current and near-term operations, and suggests some processes for the future.

The BPM included in the MITA Framework 2.0 derives from multiple sources that have tried to create a common model that reflects most Medicaid enterprises — notable sources include the State S-TAG *Redesign of the Medicaid Management Information System (MMIS)* and the CMS Medicaid Health Insurance Portability and Accountability Act [HIPAA]-Compliant Concept Model (MHCCM), which consolidates business processes from a dozen States.

The BPM offers a hierarchy of business areas and subtier business areas that lead to the individual business process at the lowest level included in the model. Any one State may, of course, describe, subdivide, and title its primary business areas differently from the hierarchy presented in the BPM, but all States can, presumably, map their hierarchy to it. Most importantly, it is assumed that all States can map their business processes to those referenced in the BPM.

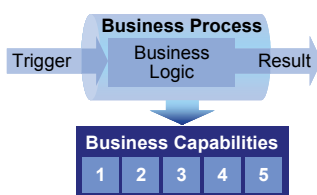
There are those business processes that all States perform (e.g., Enroll Provider) and those that are voluntary and depend on implementation of special programs within a State (e.g., Pay MCO Capitation or Enroll Beneficiary in Special Program). Framework 2.0 contains 78 individual

business processes contained in the BPM. See Part I Appendix C, Business Process Model Details, for detailed descriptions of each business process.

Business processes are defined primarily for As-Is operations. However, future changes could cause some processes to disappear and new ones to emerge. The BPM identifies some of these future (i.e., potential) new processes. However, most suggestions regarding future transformation are found in Part I Appendix D, Business Capability Matrix Details.

The BPM provides a template for describing each business process. This includes a summary of the business process, trigger event and result, activities, data requirements, predecessor and successor processes, failure points, and other elements. Some business processes have been reviewed by National Medicaid Electronic Data Interchange (EDI) HIPAA (NMEH) workgroup, and all stand to benefit from ongoing review by State workgroups. See Part I Chapter 4, Business Process Model, for a detailed presentation of the BPM and Part I Appendix C, Business Process Model Details, for the complete set of business area definitions and business process descriptions.

### Business Capability Matrix



Applying the MMM to each business process yields the BCM, which shows how the business process matures over time. The BCM assigns from one to five levels of maturity to each business process. All processes have at least a Level 1 definition of capability. Most have Level 2 and 3 capabilities. Many have Level 4 and 5. Some As-Is business processes are predicted to disappear as the healthcare industry changes over time, and some new business processes are

destined to emerge at higher levels of business capability (i.e., they first appear at a Level 4 or 5).

Capabilities are assigned to an individual business process rather than to a State's operations taken as a whole. Probably no State would be described as "all Level 1" or "all Level 2" but rather would have a blend of different levels of capability. An example of the relationship among the business process, the MMM, and the BCM is shown in **Table 1-2**.

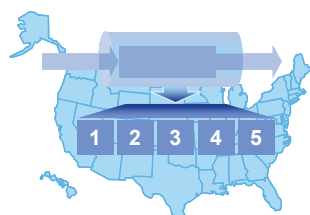
Part I Chapter 5, Business Capability Matrix, presents more information on the BCM and Part I Appendix D, Business Capability Matrix Details, lists the capabilities ascribed to business processes contained in MITA Framework 2.0.



**Table 1-2. Business Process Example: Authorize Service; the Business Capability Aligns with the Maturity Model Definition of Levels**

Level No.	MITA Maturity Model Definition	Business Capability
1	Complies with regulations; mostly manual activities; delays in communicating results	Receipt of and response to requests are accomplished primarily via paper, fax, and phone; policy guidelines applied manually; complies with regulations on turnaround time and accuracy
2	Improvements spearheaded by cost management goals; improvements made in speed of communication and response	Authorization of service given greater priority as a cost-management tool; improvements made in communications; receipt of and responses to requests made via portal; HIPAA standards adopted
3	Information and services shared with other agencies and beneficiary; process streamlined; results improved	Solutions become reusable and sharable because of adoption of standards by State agencies and data-sharing agreements to collaborate on authorization of services
4	Incorporates clinical information into the process to further improve results	Direct access by the authorizing agency to clinical information; automation of requests; decisions by payer automatically rendered as beneficiary's electronic health record is updated by provider; accuracy improved because decisions are based on clinical evidence; manual intervention limited to exceptions
5	Demonstrates widespread interoperability to achieve maximum improvements envisioned at this time	Direct access by the authorizing agency to clinical and administrative information anywhere in the country to confirm or deny the authorization for a service

### State Self-Assessment



The final component of the BA is the State Self-Assessment (SS-A). CMS wants States to conduct an SS-A to determine their current business capabilities and document their plans for transformation to achieve higher levels of maturity. Several States have already undertaken this process. In the future, CMS plans to ask States to submit an SS-A based on MITA business capabilities in conjunction with the submittal of their Advance Planning Documents (APDs) when requesting funding for system enhancements.

The SS-A asks States to align their business processes to those in the MITA BPM and examine the BCM to assess their current level of capability. It is likely that a State's business processes map to different levels of capability and that most As-Is processes are assigned to a Level 1 or Level 2.

Each State then takes into consideration its strategic plan, CIO directives, budget expectations, stakeholder influences, State and national healthcare outcome goals, alignment with Federal and national initiatives, and foreseeable legislation to determine what future capabilities it wants to target. CMS encourages States to envision a transformation in keeping with the MITA



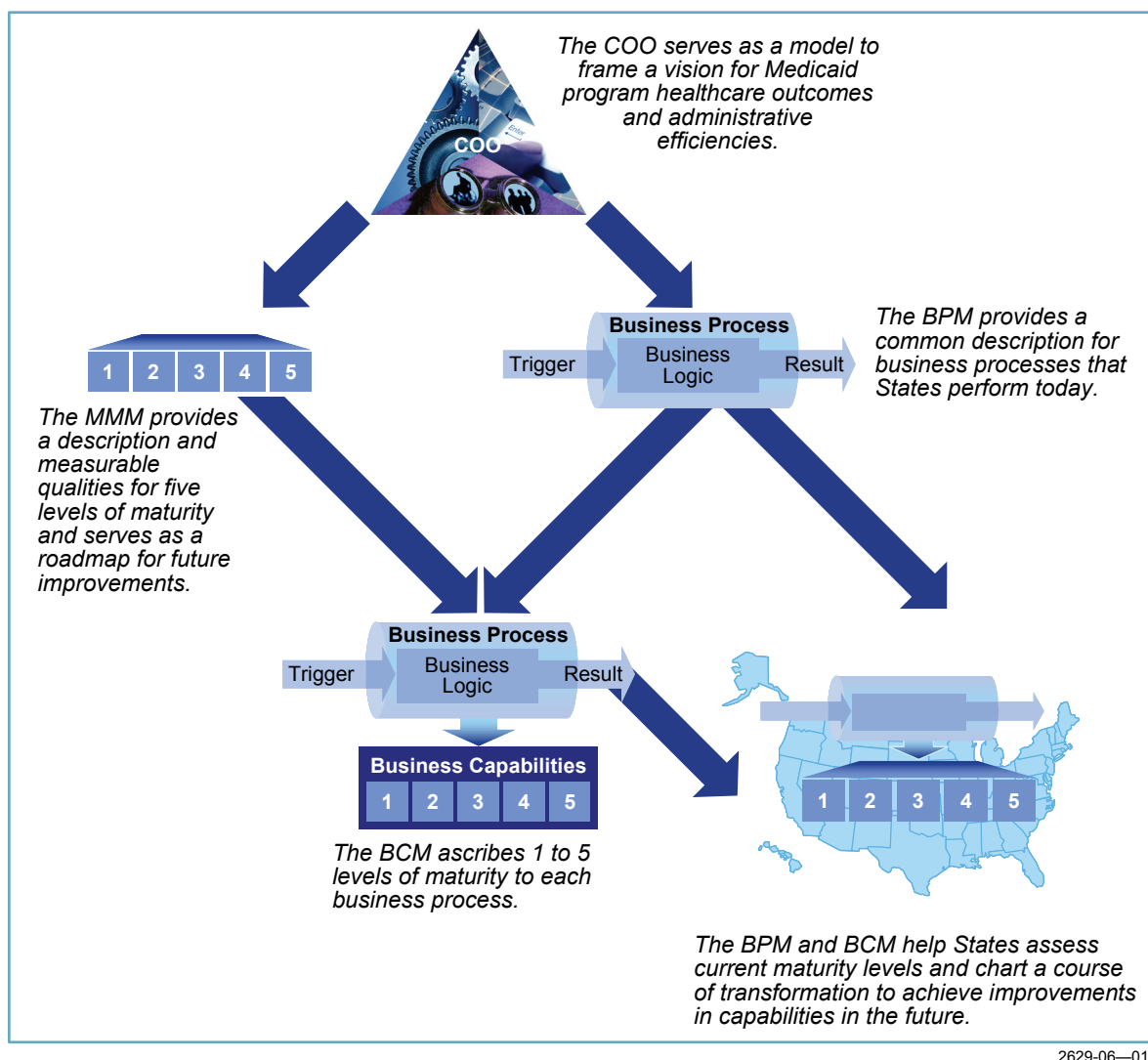
Framework. CMS plans to use the SS-A when evaluating APDs and RFPs. CMS assumes that if the State wants Federal participation in its efforts to replace a business process, the result should be anticipated improvements. The BCM serves as a consistent measure of transformation from one level to a higher level. See Part I Chapter 6, State Self-Assessment, for more information on the SS-A.

## What Is the Relationship Among the Components of the Business Architecture?

The five components of the BA are interrelated:

- The COO serves as a model to frame a vision for Medicaid program healthcare outcomes and operational efficiencies. It establishes the To-Be vision that becomes the goal of the Medicaid enterprise transformation. The COO provides the vision for the MMM. It also supplies a model for the BPM hierarchy.
- The MMM uses a common industry approach to describe the differences between five levels of progressive maturity, ranging from the As-Is level to a 10+ year To-Be level. The MMM is the point of reference used by the BCM to describe the levels of maturity for a business process.
- The BPM describes As-Is State Medicaid operations.
- The BCM uses the five levels of maturity described in the MMM and the To-Be vision defined in the COO to create up to five levels of maturity for each business process. (A Level 3 business capability describes how a business process is changed and improved at this future stage.)
- Finally, the SS-A draws upon the BPM and the BCM to assess its current business capability level for each business process and select future levels of improvement it seeks to achieve.

Figure 1-2 shows the relationship among the various components of the BA.



**Figure 1-2. Relationship Among the Components of the Business Architecture**

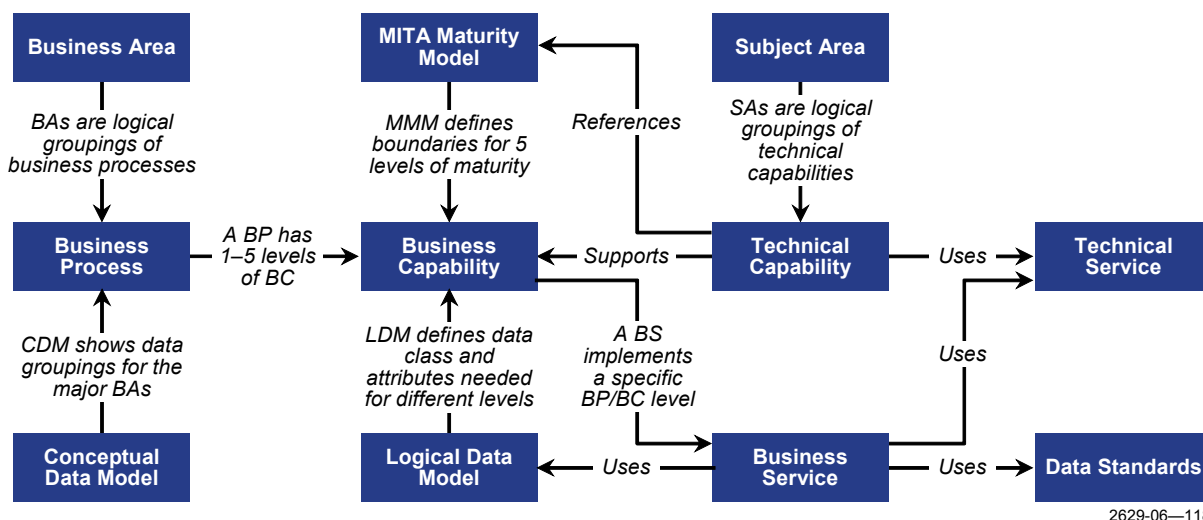
## What Is the Relationship of the Business Architecture to the Information and Technical Architectures?

The BA does not present specific technical solutions or detailed data requirements. Some of its components, however, point to specific companion components in the IA and TA sections of MITA Framework 2.0 (Parts II and III, respectively). These relationships are described in **Table 1-3**.

**Table 1-3. Relationships of the Business Architecture Components with the Components of the Information and Technical Architectures**

Business Architecture Component	Other Architecture Component	Relationship
COO — Data Exchanges	Information Architecture (Part II) — All chapters	IA chapters provide details regarding the transformation of data and information envisioned in the COO.
COO — Enablers	Technical Architecture (Part III) — Chapter 3, SOA Concept; Chapter 5, Technical Capability Matrix	SOA and Technical Capabilities are enablers referenced in the COO.
BPM — Trigger Event, Result, and Shared Data in each business process describe in general terms the kind of data received by, used by, and resulting from each business process	Information Architecture (Part II) — Chapter 2, Data Management Strategy; Chapter 3, Conceptual Data Model	Data Management Strategy explains how the data support the business processes. The Conceptual Data Model identifies groupings of information common to Medicaid business areas and clusters of business processes.  In future releases, business areas and conceptual data model components will be linked.
BCM	Information Architecture (Part II) — Chapter 4, Logical Data Model	The Logical Data Model defines data classes and attributes needed to support different levels of maturity. A business process described at a Level 3 business capability requires Level 3 data attributes.
BCM	Technical Architecture (Part III) — Chapter 5, Technical Capability Matrix	The BCM drives the TCM. Technical capabilities are associated with the BCM level where specific technology is needed to support the business process.
BCM — Level 3 and above	Technical Architecture (Part III) — Chapter 4, Business Services; Chapter 3, SOA Concept	A business service is an implementation of a specific business process at a specific level of capability. Business services and SOA are associated with BCM Level 3 and above.

Figure 1-3 illustrates how some of these components interrelate.



**Figure 1-3. Relationships Among Components of the BA, IA, and TA**

The chapters following this introduction (Part I, Chapters 2 through 6) contain more information on the five components of the BA. These chapters are followed by a Summary (Part I Chapter 7, Business Architecture Summary) and four appendices (Part I, Appendices A through D).