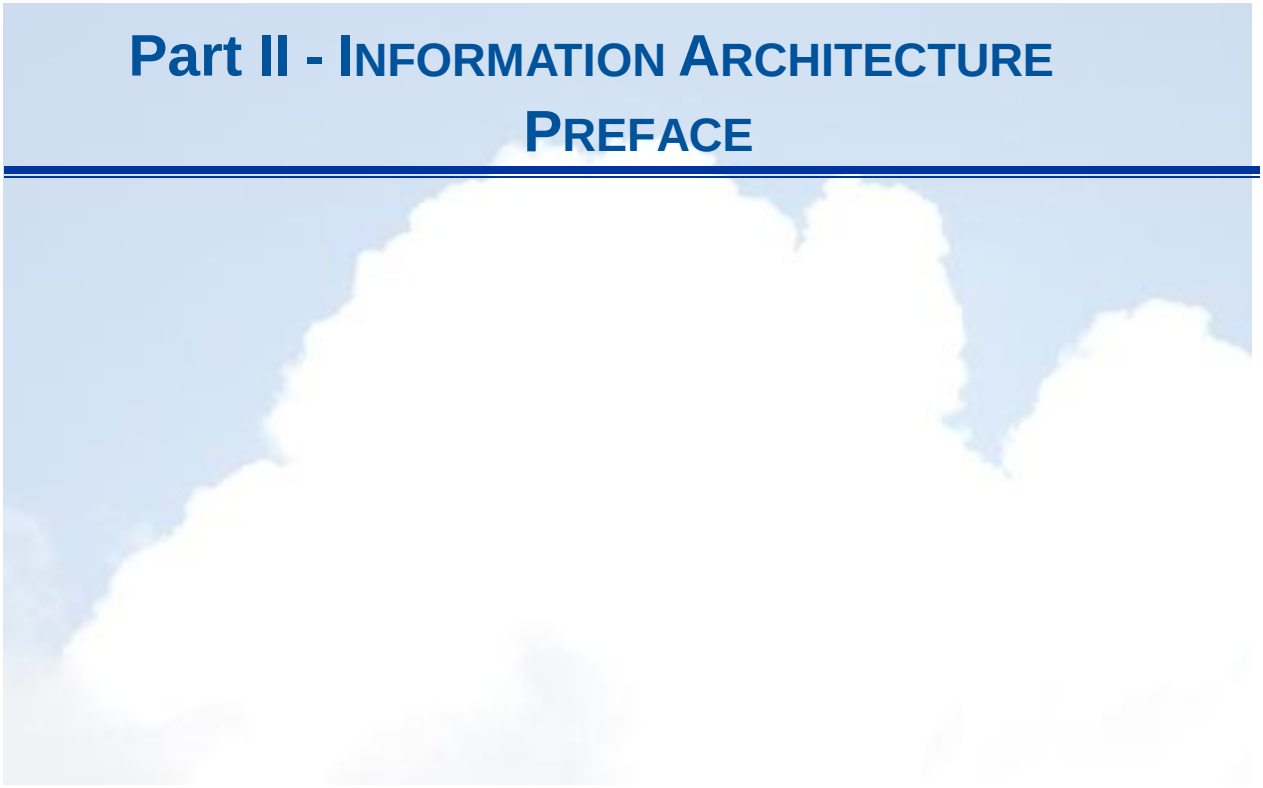
Part II - INFORMATION ARCHITECTURE
PREFACE



CMS
CENTERS for MEDICARE & MEDICAID SERVICES

MITA
Medicaid Information
Technology Architecture

Introduction

The Medicaid IT Architecture (MITA) Framework contains three interrelated architectures: Business Architecture (BA), Information Architecture (IA), and Technical Architecture (TA).

This preface summarizes the components of the IA and links them to the other architectural elements of MITA. The IA provides the data bridge between the BA information requirements and the TA message requirements.

The MITA Framework adapts to technical, legislative, and policy changes, as well as other influences that facilitate the transformation of the Medicaid Enterprise and support the vision of the future. Some external factors include the following:

- Health Insurance Portability & Accountability Act (HIPAA) of 1996
- International Classification of Diseases (ICD-10)
- Children's Health Insurance Program Reauthorization Act (CHIPRA) of 2009
- American Recovery and Reinvestment Act (ARRA) of 2009
- Health Information Technology for Economic and Clinical Health Act (HITECH) of 2009
- Plain Writing Act of 2010
- Patient Protection and Affordable Care Act of 2010
- President's Council of Advisors on Science and Technology (PCAST) Report on Health IT
- Medicaid Program; Federal Funding for Medicaid Eligibility Determination and Enrollment Activities
- Enhanced Funding Requirements: Seven Conditions and Standards (a.k.a. Seven Standards and Conditions)
- Guidance for Exchange and Medicaid Information Technology (IT) Systems (a.k.a. IT Guidance)

Chapter 1 Information Architecture Introduction

The IA identifies the major types of information needed to support the business functions. It identifies and defines the logical information models, metadata repositories, and their relationships to the business functions and to both the business and technical services.

The IA provides an explanation of the information to ensure States have a better understanding of data assets that comprise a Medicaid Enterprise so they can manage it more efficiently. The IA also enables the identification of processes necessary to manage that data.

The IA enables the characterization of Medicaid Enterprise information at different levels of abstraction.

Part II Chapter 1 addresses and provides detailed information on the following topics:

- Information Architecture
- Developing Information Architecture
- Components of the Information Architecture
- Using the Information Architecture

Chapter 2 Data Management Strategy

The MITA Data Management Strategy (DMS) provides seamless interoperability within and across the Medicaid Enterprise. Increasingly, State Medicaid Enterprises need to exchange and share information internally and with other state and federal agencies, organizations, and enterprises. This is especially true as Medicaid works toward its vision of developing integrated systems that effectively communicate to achieve common Medicaid goals.

States originally built Medicaid systems to satisfy the Medicaid organizations' own and federal business needs. The States did not design them to interoperate seamlessly with other systems within the enterprise, let alone with external systems and applications. States need to extend current data and information activities to include data sharing, seamless integration, reuse, and semantic operability at the enterprise level, while maintaining data quality and integrity. The DMS coordinates this effort for State Medicaid Enterprises, with the goal of getting the right data to the right people at the right time.

As States evolve and begin aligning their technology with MITA, they will see a shift from traditional siloed methodologies to an enterprise approach that includes sharing data with other health and human service-related systems and entities such as public health, Internal Revenue Service (IRS), Child Health Insurance Programs (CHIP), Pharmacy Benefits Management (PBM), etc. In the future, States will replace the traditional way of using interfaces to address their data sharing needs by developing standardized message formats containing the same data elements and formats to exchange data with external state, regional, and national entities.

Chapter 3 Conceptual Data Model

A Conceptual Data Model (CDM) represents a significant portion of the IA. It is a blueprint or conceptual plan for building information systems. A CDM serves as a tool that enables the reengineering of business processes and enterprise strategies. Specifically, Medicaid system architects and designers use the CDM for guidance in developing messages to produce interoperable technical services.

Chapter 4 Logical Data Model

A Logical Data Model (LDM) is a preliminary representation that serves as the plan from which architects and designers construct the final object. Data models document the data (and the characteristics of that data) required to satisfy the needs of the State Medicaid Enterprise. The LDM also provides guidance and specifics to IT staff (e.g., States or

vendors) how to design MITA enterprise service interfaces. The LDM provides a mechanism for ensuring the completeness of the business model and serves as a tool that enables the reengineering of Medicaid business processes. Specifically, Medicaid system architects and designers use the MITA data models for guidance in developing messages produced by technical services for plug-and-play and interoperable Medicaid business and technical services.

Chapter 5 Data Standards

This chapter provides a discussion of the use of data standards by the IA. The lack of shared data standards is one of the most important issues facing Medicaid system and subsystem interoperability. This issue goes well beyond the Medicaid Enterprise to include the private sector and other government agencies. It adversely affects Medicaid systems in many ways by:

- Creating the need for translators.
- Constraining automated processes.
- Reducing the potential of business processes that use shared data.
- Requiring data duplication that results in poor quality and wasted physical storage.
- Increasing paperwork and data collection burdens.
- Reducing the analytic potential of health data.
- Reducing the analytic potential of program integrity data.
- Reducing the capability for data sharing, which in turn limits the usefulness of data used internally or externally (e.g., with trading partners, other State Medicaid Enterprises, other agencies, etc.).

The MITA initiative coordinates the identification and use of common data standards for the Medicaid Enterprise. It addresses the need for a general consensus on common data vocabularies, assurances of privacy, and other issues surrounding electronic transmission of information.

Chapter 6 Information Capability Matrix

The Information Capability Matrix (ICM) describes each IA component (Data Management Strategy, Conceptual Data Model, Logical Data Model, and Data Standards) at a specific level of MITA maturity. The IA capabilities used in the ICM result from applying the MITA Maturity Model's definitions of the five levels of maturity to each business process to derive specific information architecture capabilities.