
Part III – TECHNICAL ARCHITECTURE

PREFACE



Introduction

The Medicaid IT Architecture (MITA) Framework contains three (3) interrelated architectures: Business Architecture (BA), Information Architecture (IA), and Technical Architecture (TA).

This preface summarizes the components of the TA and addresses the infrastructure for improving the Medicaid Enterprise over time.

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 Introduction

The MITA Framework utilizes BA, IA, and TA together. The BA derives application and connectivity mechanisms that the IA enables and the TA fulfills. They are three (3) different views of the Medicaid Enterprise covering business, architecture, and data. Technical Service Areas (TSA) and Technical Service Classifications (TSC) organize the MITA TA; much like the business areas and processes organize the MITA BA (See Part I, Chapter 4, Business Process Model). The TSA and TSC subgroupings allow evaluation of the TA maturity levels during the MITA State Self-Assessment (SS-A), providing the technical component of the State Medicaid Enterprise MITA maturity.

Chapter 2 Technical Management Strategy

The MITA Technical Management Strategy (TMS) addresses the application design and technology opportunities across the Medicaid Enterprise. Increasingly, a State Medicaid Enterprise needs to expand and improve upon its technical abilities to exchange information internally as well as with other federal and state agencies and entities. The need to communicate electronically with Medicaid beneficiaries is becoming a major part of business for the State Medicaid Agency (SMA). This is especially true as Medicaid works toward its vision of developing integrated systems that effectively communicate to achieve common Medicaid goals.

Historically, the SMA built a Medicaid system to satisfy the Medicaid program's need to meet state and federal requirements; however, the SMA did not design systems to interoperate seamlessly with other applications within a newly defined enterprise, let alone with external systems, applications, and beneficiaries. States are having to involve current technology incorporation activities to include near real-time data sharing. This means seamless integration, usage of alternative resources (i.e., Cloud Computing), and practicing sound application design methods. These advancements extend the Medicaid applications to a higher enterprise level. The TMS coordinates this effort for the State Medicaid Enterprise with the goal of supporting the need to get the right data to the right people at the right time.

This chapter provides an introduction to the basic concepts related to major technical practices and offerings (i.e., Cloud Computing, Enterprise Architecture (EA), Hub Services, Service-Oriented Architecture (SOA)) within the MITA Framework.

Chapter 3 Business Services

The MITA TA includes two (2) categories of services: business and technical. Business services provide business functionality derived from the MITA Business Process Model (BPM), as described in Part I, Chapter 4, Business Process Model and the MITA Business Capability Matrix (BCM), as described in Part I, Chapter 5, Business Capability Matrix.

A Business Service defines a standard interface and functionality for a business process that aligns the common factors of the SMA development with the Medicaid Enterprise. A MITA Business Service allows:

- ❖ **Modularity** – A new implementation replaces an individual service without affecting the rest of the enterprise. For example, an enterprise replaces a service that is currently a wrapped COBOL application with a Commercial Off-the-Shelf (COTS) product or Java Platform, Enterprise Edition (J2EE) C++ program without changing any of the external interfaces.
- ❖ **Interoperability** – A system changes an external user of a service (e.g., delete, add, or modify external services or clients) without changing the service itself. For example, a new service is an application or a client added to the enterprise.

Chapter 4 Technical Services

This chapter defines the groupings of TSA and subgrouping of TSC. The Technical Capability Matrix (TCM) uses these definitions to provide States with a technical capability assessment tool for the SS-A. MITA technical services provides guidance and specifics to an IT staff (e.g., States or vendors) on how to develop a MITA technical capability. The focus across this chapter is to delineate a technical assessment tool that:

- ❖ Refocuses the technical assessment process on business needs.
- ❖ Provides a method for identifying the inventory of the technical services and applications available to move between capability levels.
- ❖ Determines what technical assets are currently available in a state's infrastructure that can support future business needs.
- ❖ Reflects the technical needs, in conjunction with Business Service solution sets and the To-Be environment business service assessment that meet the business To-Be environment.

Chapter 5 Application Architecture

The MITA TA approaches application integration using SOA principles. Application Architecture (AA) defines the relationships among the various services and provides an infrastructure allowing execution of the application. This infrastructure includes mechanisms to orchestrate the processing and workflow.

Chapter 6 Technology Standards

This chapter contains a listing of the current technology standards for defining the various components of the TA. The technology standards align with the MITA Goals and Objectives as well as the Seven Standards and Conditions.

Chapter 7 Technical Capability Matrix

This chapter provides more detail on the MITA TCM. The TCM describes the boundaries and behavior of each MITA technical function in the context of the five (5) levels of MITA maturity as described in Part I, Chapter 3, Maturity Model. A technical capability describes a technical function at a specific MITA maturity level. TA assigns technical capabilities to a maturity level based on the maturity level of the business usage they enable. The TCM provides the TSA and the relevant TSC groups with maturity statements of technical capability. The TCM uses a:

- ❖ **TSA** – Is a technical tier supporting the secure construction, exchange, and delivery of Service Components.
- ❖ **TSC** – Is a lower level classification comprised of one or more service standards.