
Part III — Technical Architecture

Chapter 9 — Solution Sets

Introduction

This chapter focuses on Medicaid IT Architecture (MITA) solution sets, describing what they are, how they are generated, and how States can use them.

Framework 2.0 does not contain specific solution sets. Draft solution sets have been defined and will be distributed for review and incorporation in future volumes of the MITA Framework.

This chapter answers the following questions:

- What is a solution set?
- How are solution sets generated and used?
- Why do we need solution sets?
- What are the next steps?

Purpose

A solution set describes a service's implementation, which can be used by States and vendors. Their use will enable others to follow the same implementation patterns or even use the same code to implement the service.

Scope

MITA solutions sets are limited to describing business services, technical services, application architecture, and groups of the above. The description is provided by metadata using a standard MITA template. Solution sets describe specific implementations but do not include the actual code. Solution sets are produced by States and vendors and are stored in the future MITA repository.

What Is a Solution Set?

A solution set is a set of resources that documents or describes a specific implementation of a business or technical service. MITA solution sets will be mapped to both business and technical services to assist States with implementation planning. Additionally, MITA solution sets will consist of resources that States can incorporate into their RFPs (e.g., requirements specifications, design approaches/patterns, design specifications, applicable standards, and test cases).

Solution sets are *not* implementation-neutral. A solution set represents a specific implementation of a service or pattern. For instance, a service could be implemented as a .NET or a J2EE service and both implementations would be documented as a solution set associated with the same service.

A single service may have many solution sets based on the underlying technology used for implementation, performance characteristics (e.g., data volume, transaction rates), or cost. Each solution set would be associated with the service and made available for States to use in planning their implementations.

In addition to business and technical services, solution sets are also used to document the implementation of specific groups or patterns of functionality. These groups/patterns are organized around a common technical subject (e.g., security and privacy) to help solve common problems and further define MITA. Such groups comprise all the technical services associated with a particular pattern, and they enable workgroups to be formed to address a complete solution for a technical problem.

MITA will select and align with appropriate national standards. When adaptations or extensions are needed to support the Medicaid business, MITA will collaborate through groups to develop such extensions and offer them to an appropriate national standards organization. If no relevant national standards have been developed, groups will enable States to develop and implement Medicaid standards collaboratively and, if appropriate, submit such standards to a national standards organization.

An initial set of groups has been identified by MITA based on the technical areas. These groups will probably be broken down into more precise subsets in the future. The initial MITA list is as follows:

- **Interoperability Group** defines mechanisms for system-to-system communications from one business area application to another to exchange information and provide services.
- **Data Management Group** defines Medicaid-specific data and identifies Medicaid-specific data standards and vocabularies, with an emphasis on data structure, data taxonomy, and metadata standards development to describe data.
- **Data Sharing and Coordination Group** promotes collaborative State agreements and harmonizes competing standards for data shared outside the Medicaid enterprise (e.g., with public health, law enforcement, and other organizations not directly related to Medicaid).
- **Security and Privacy Group** defines standard security and privacy mechanisms to facilitate the exchange of information among multiple organizations, addressing policy and technical issues regarding security data exchange.
- **Adaptability and Extensibility Group** identifies and provides utilities that States can tailor (i.e., adapt) and extend (i.e., add to) to meet their individual needs. It also

provides guidelines and specifications to help States develop adaptable and extensible systems.

- **Performance Measurement Group** creates standard policy and performance measurement capabilities by developing and publishing common measurement criteria, defining standard methods of data collection across MITA organizations, and developing standard report formats and utilities.
- **Business Area Improvement Group** identifies applications that will implement improvements in Medicaid business-processing functions. The Business Area Improvement Portfolio will also look for commercial off-the-shelf (COTS), government off-the-shelf (GOTS), and open-source products that States can leverage to make core business improvements and adapt to their specific needs.

The template for describing a solution set is presented in **Table 9-1**. The template is used to capture information for each MITA solution set. The resulting filled-in templates are then stored in a repository that States can browse to identify services and technology options that other States have already implemented.

Table 9-1. MITA Solution Set Template

Solution Set Descriptions and Template Definitions	
Identifier	XXXnnn — where XXX is a two- or three-letter acronym for a portfolio (e.g., Business Area Improvement) and nnn is a sequentially assigned number for identifying individual solution sets in a portfolio
Solution Set Name	Brief name for the solution set
Portfolio	Name of the portfolio to which the solution set belongs
Applicable Capability(ies)	Capability that the solution set implements or is a part of (i.e., business or technical)
Service(s) Implemented	Name(s) of the MITA business and/or technical services implemented
Use	Intended use of the template (e.g., “Does it apply to design?” and “Does it point to reusable components?”), which supplements information about a solution set if its name becomes too long
Level	Level in the MITA BCM
Owner	Individual or organization responsible for the contents of the solution set
Keywords	Keywords from stakeholder goals, capabilities, and technical solution
Functional Summary	Summary description of the functions performed by the solution set
Stakeholder Needs	Description of the business goal (e.g., “Reduce the time to identify and resolve discrepancies in transactions shared between organizations” or “Minimize duplicate payment and potential for provider fraud by verifying third-party liability directly with all payers”)
Applicable Patterns	List of industry-recognized approaches or other patterns and links or references to additional materials

Solution Set Descriptions and Template Definitions	
Association with Other Portfolios (Indicates how this solution set is related to solution sets from other portfolios listed below)	
Interoperability	
Data Management	
Data Sharing	
Security and Privacy	
Adaptability and Extensibility	
Performance Metrics	
Business Area Improvement	
Other Links	Links to solutions in the repository, national standards documents, or other reference materials
COTS Status	Identification of available or emerging COTS software that might provide the functionality addressed by the solution set
Detailed Description	
	Detailed description of the functionality provided by the solution set at a level that States can review and compare with their requirements or distribute to vendors for their response to indicate whether their products can satisfy those requirements
Attachments	
	Detailed information that further describes the solution (e.g., documents, spreadsheets, or links to Web sites)

How Are Solution Sets Generated and Used?

The solution set generation and utilization process is part of the broader MITA Portfolio Utilization process, which is shown in **Figure 9-1**. The purpose of this process is to identify and create resources collaboratively that will help States migrate to the target architecture. It will also provide a means of expanding, detailing, and maintaining MITA models.

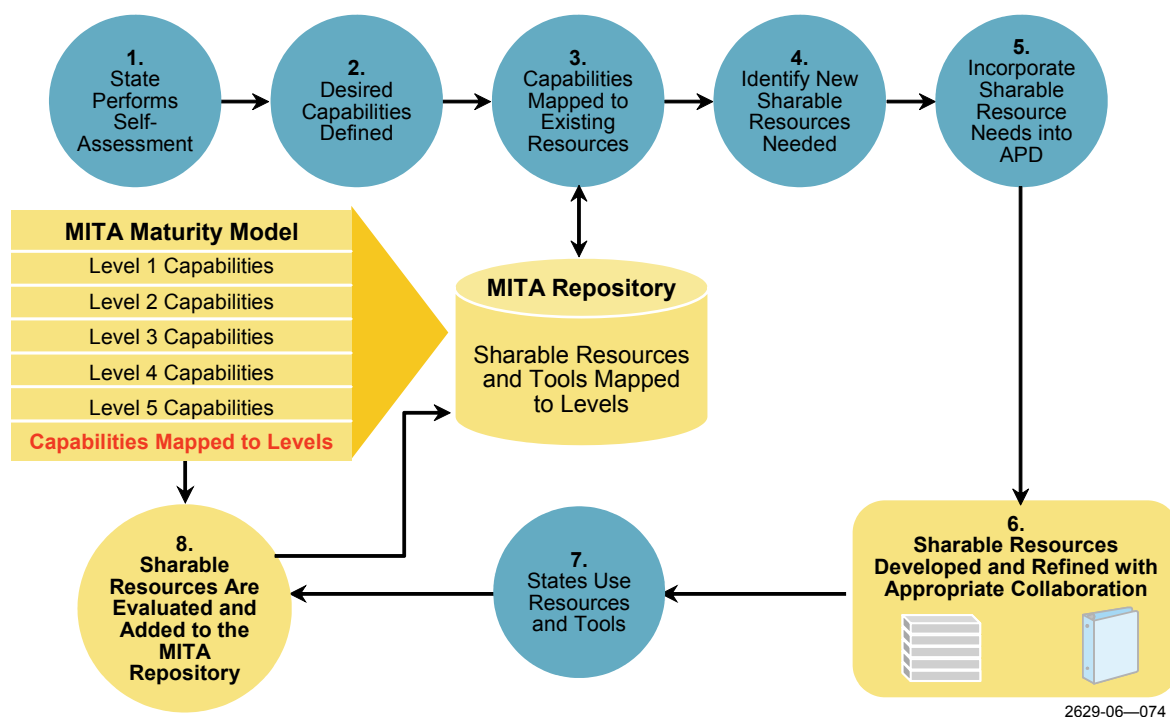


Figure 9-1. Solution Set Utilization Process

The Portfolio Utilization Process includes the following steps:

- **Step 1.** The State performs a self-assessment against the MITA Business Capability Matrix (BCM) and Technical Capability Matrix (TCM) to determine its current levels.
- **Step 2.** The State selects desired capabilities from the next level(s) that align with its strategic goals. (The gaps between current capabilities and desired capabilities will determine the projects that the State undertakes.)
- **Step 3.** The State works with its Regional Office (RO) to identify existing resources, tools, solution sets, ongoing development activities, or State projects that can be leveraged to fill gaps.
- **Step 4.** If the State can find no matching resources or projects to fill a particular gap, the State can explore (preferably with other States) the option of developing a reusable solution that can be leveraged as widely as possible across the Medicaid enterprise.
- **Step 5.** The State documents its decisions on the reuse or new development of solution sets in its Advanced Planning Document (APD).
- **Step 6.** The State works with its RO and with the guidance of Center for Medicaid and State Operations (CMSO) to establish appropriate levels of collaboration to develop resources. The State also either forms a team to explore other solutions that it can leverage or develops appropriate resources for the solution set (e.g., detailed business and technical models, specifications, reusable components, or even operational

systems). The State then provides these solution elements to MITA for mapping to the levels in the MITA Maturity Model (MMM) and population in the MITA repository for reuse by other States.

- **Step 7.** The State uses these resources to complete its projects and then moves to the next level in the MMM.
- **Step 8.** The MITA team evaluates the new resources and tools developed by teams for possible inclusion in the MITA repository.

In future versions of the Framework, MITA will develop and provide detailed guidelines, processes, procedures, templates, and examples to successfully steer the portfolio teams through the portfolio/solution set development process.

Why Do We Need Solution Sets?

Solution sets are collections of resources that will enable States to document and share solutions that address MITA objectives. It is the solution sets that describe the specific implementation of a service or pattern. The solution set is, therefore, a critical tool for States when it comes to reusing specific components of a physical implementation. Those resources will also provide a common approach to solving new problems and creating sample documents for State procurement and planning purposes. The resources and tools eventually will be stored in centralized design centers, which will provide working environments for customizing and testing tools and will include a repository for common templates, tools, and, ultimately, completed solutions.

What Are the Next Steps?

Solution sets will be developed as MITA services are specified and as States and vendors implement those services. These implementations will be documented and submitted for incorporation into the MITA repository.