

Using Integration to Advance Modularity and Drive Business Results



Sourcing the New Systems Integrator Role

Lorrie Scardino
Managing Director
Blue Tack Consulting

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Baltimore, MD



2016 Snapshot

How many States use an independent Systems Integrator (SI) for MMIS today?

→ 0

How many States have published plans or active procurements to use an independent SI within one year?

→ 6

How many varieties of scope of work are there among these States?

→ 6



2017 Snapshot

How many States use an independent Systems Integrator (SI) for MMIS today?

→ 0

How many States have published plans or active procurements to use an independent SI within one year?

→ 9

How many varieties of scope of work are there among these States?

→ 9



2017 Snapshot

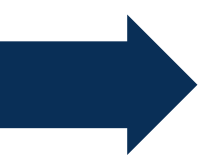


How many have been awarded?

➔ 0

2017 Recap - MMIS Independent SI

as Described in 2016 90/10 Funding Rule Guidance



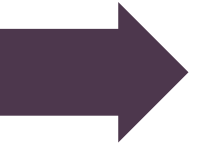
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States use an independent SI for MMIS today



9

States have published plans or active procurements to use an independent SI within one year



9

Varieties of scope of work among those States

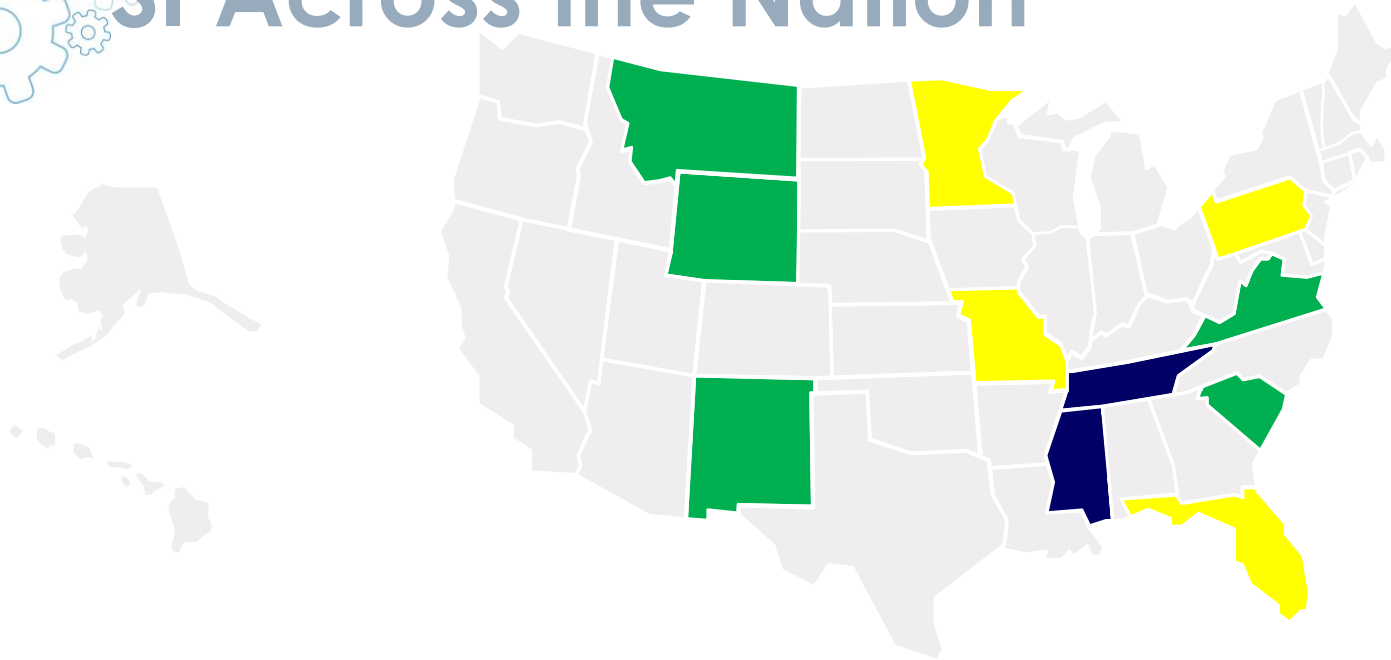


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Awards



SI Across the Nation



Based on publically available information with specificity about SI and SI scope of work as of August 1, 2017

Green: Active (including cancellations and re-dos)

Yellow: Planned

Blue: Using Existing Resources or Other Mechanism



*Diverse requirements drive custom services.
Custom services are expensive and risky.*

*Common requirements drive commoditized
services. Commoditized services are cost-
competitive, proven, stable.*



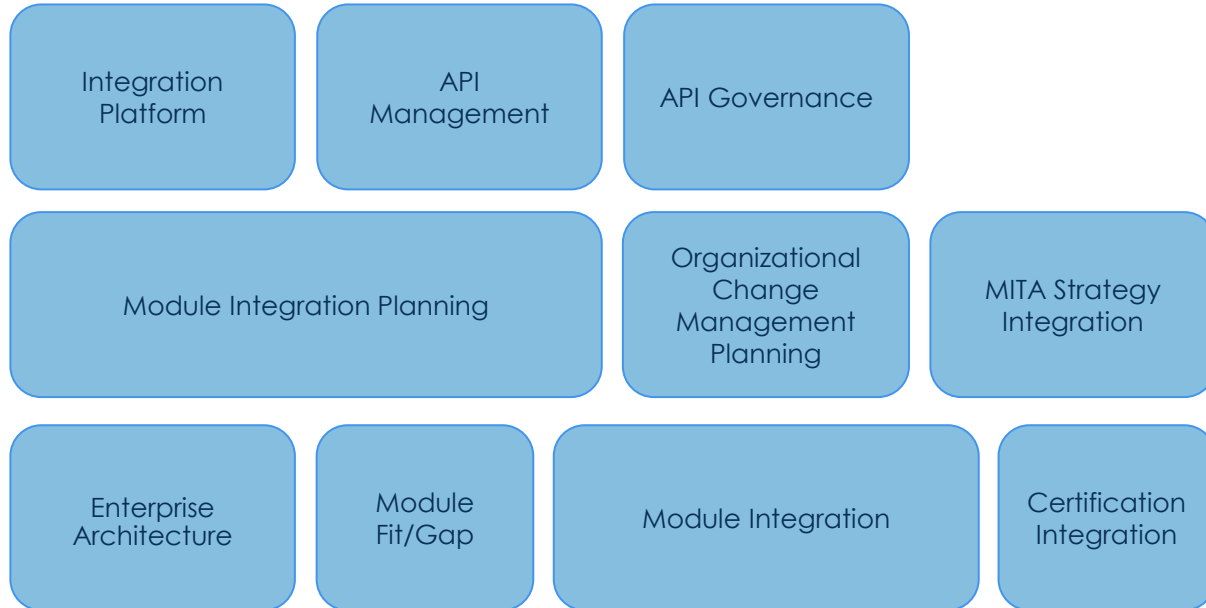
What's new in MMIS is not new in other industries

Leverage Best Practices
Don't Re-invent the Wheel



Benefits of a Tiered Model

Gives States a model to select the services it needs, allows the market to coalesce around standard requirements and provides a realistic path forward





Three Essential SI Services

Without these, interoperability, leverage and industry standards cannot be achieved



Integration Platform

Establish and/or manage Enterprise Service Bus (ESB), adapters, meta data repository, transfer engine, process orchestration engine, dashboard, batch engine



API Management

Publish and promote APIs, automate and control connections, monitor traffic, provide memory management and caching mechanisms

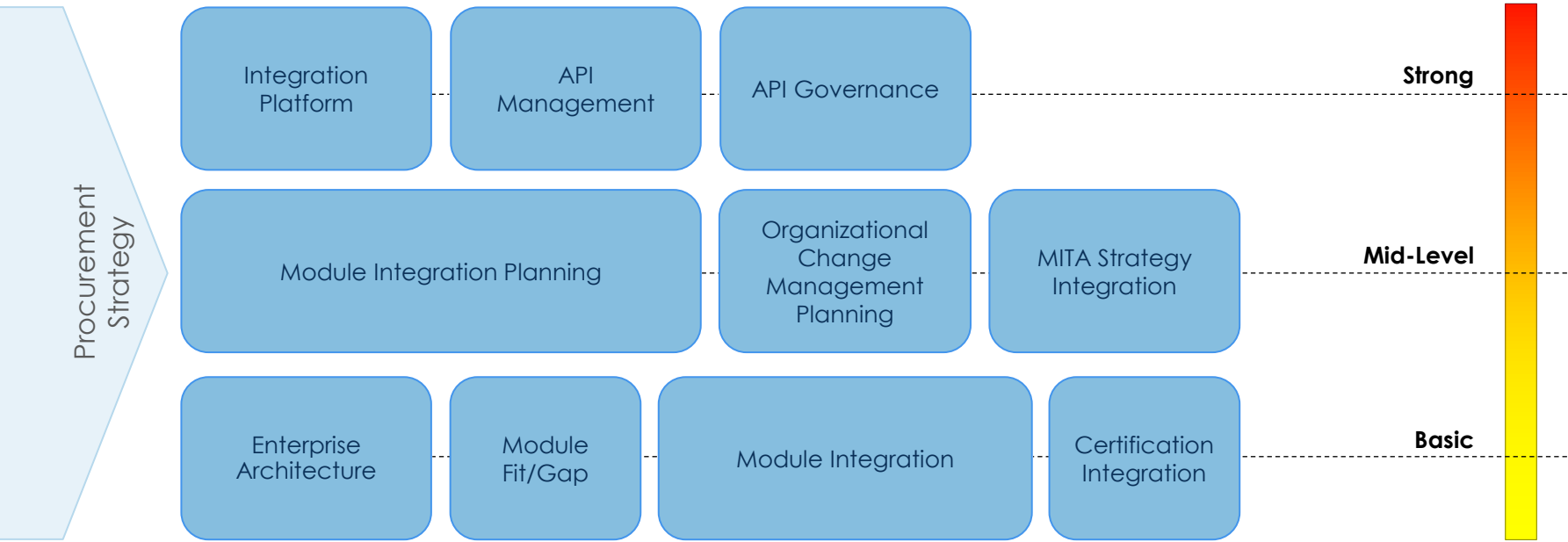


API Governance

Manage governance platform, API subscriptions, API promotion meta-data and design checkpoints, synchronize with SOA governance and business strategy and goals

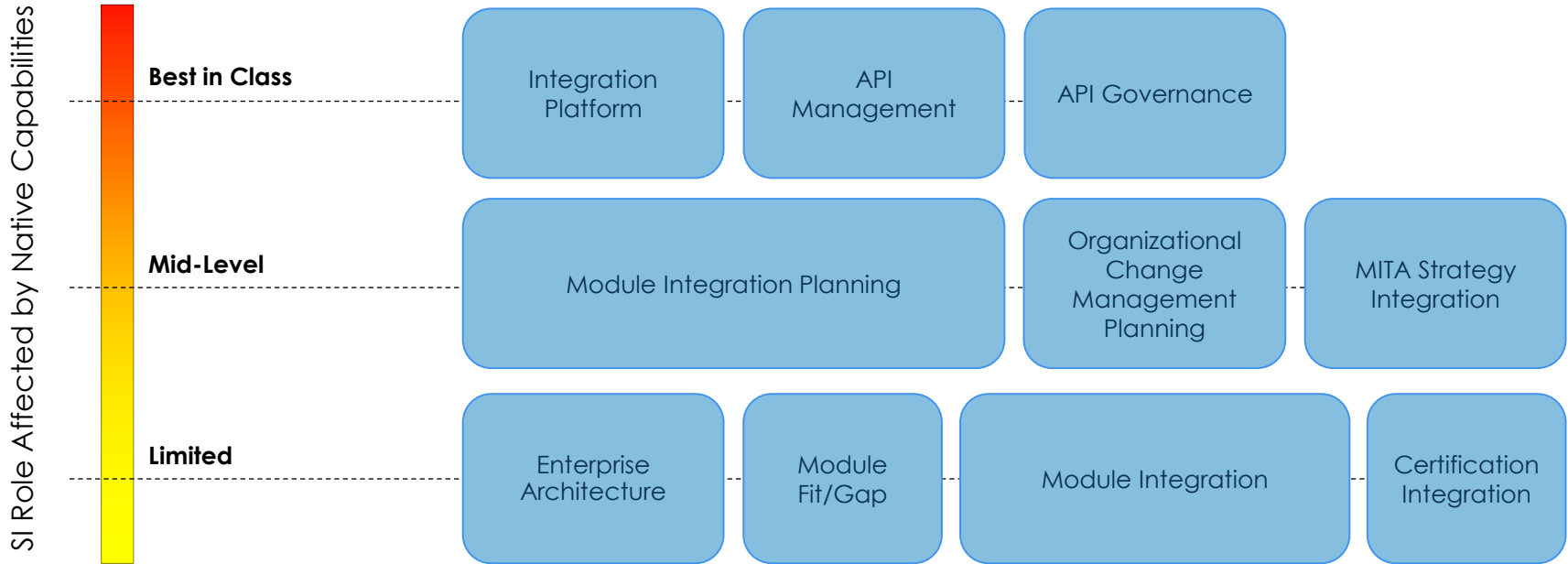


SI Role/Scope Affected by Project Management Office (PMO)





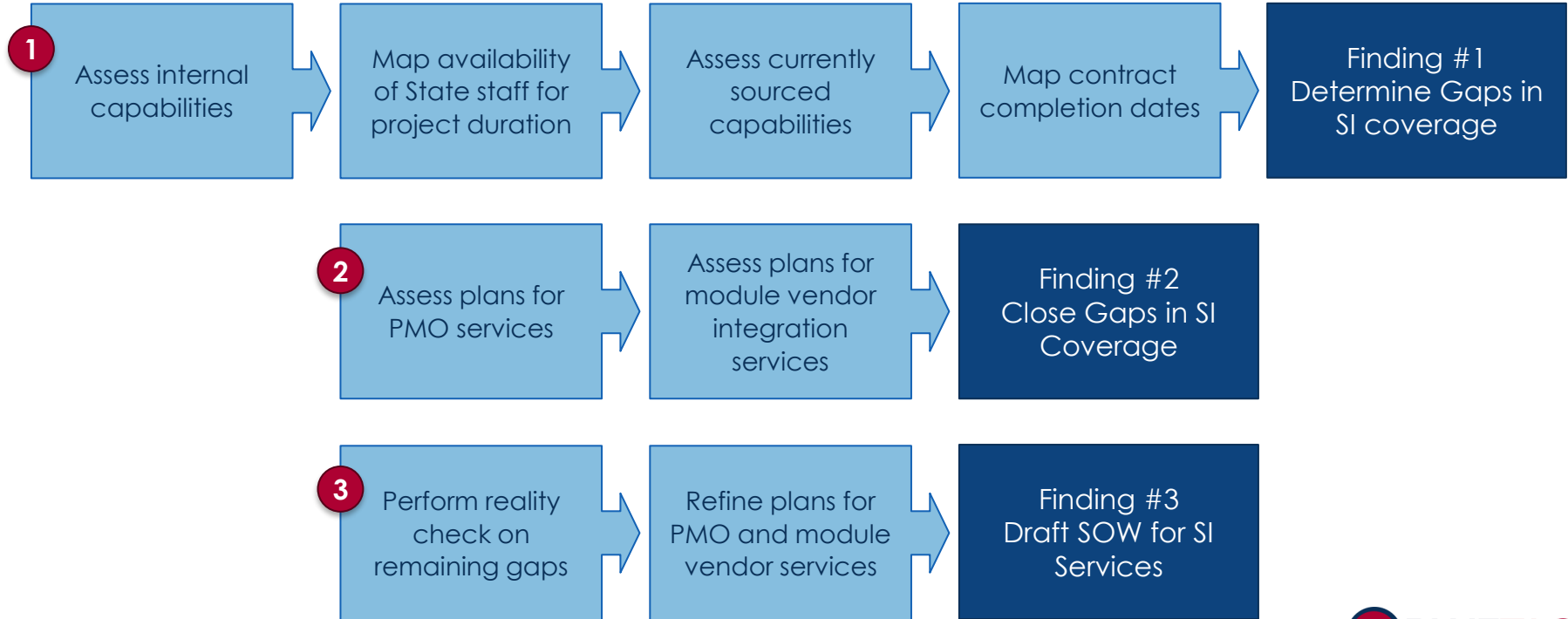
SI Role/Scope Affected by Module Vendor Native Capabilities/Scope





Follow a Structured Approach

to Determine What You Need





Be Deliberate

Source SI as Part of Enterprise Sourcing Strategy



Network

With States, CMS and Seek Market Input



Look Downstream

Consider Long Range Implications



Remember – Contract ≠ Module

Integration Platform is a Pre-requisite for Modularity

Questions:

lscardino@bluetackconsulting.com

Thank You!



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A History of Success



The EOHHS IT teams supporting MassHealth have a history of successfully delivering projects and initiatives including:

- Implementing 5010 HIPAA transaction standards
- Migration to ICD-10 clinical coding
- Recovering from HIX 2013 and having successful Open Enrollment periods in 2014, 2015, and 2016
- Upgrading the MMIS to a new hardware and software platform
- Implementing a state-wide Health Information Exchange.



MassHealth Transformation



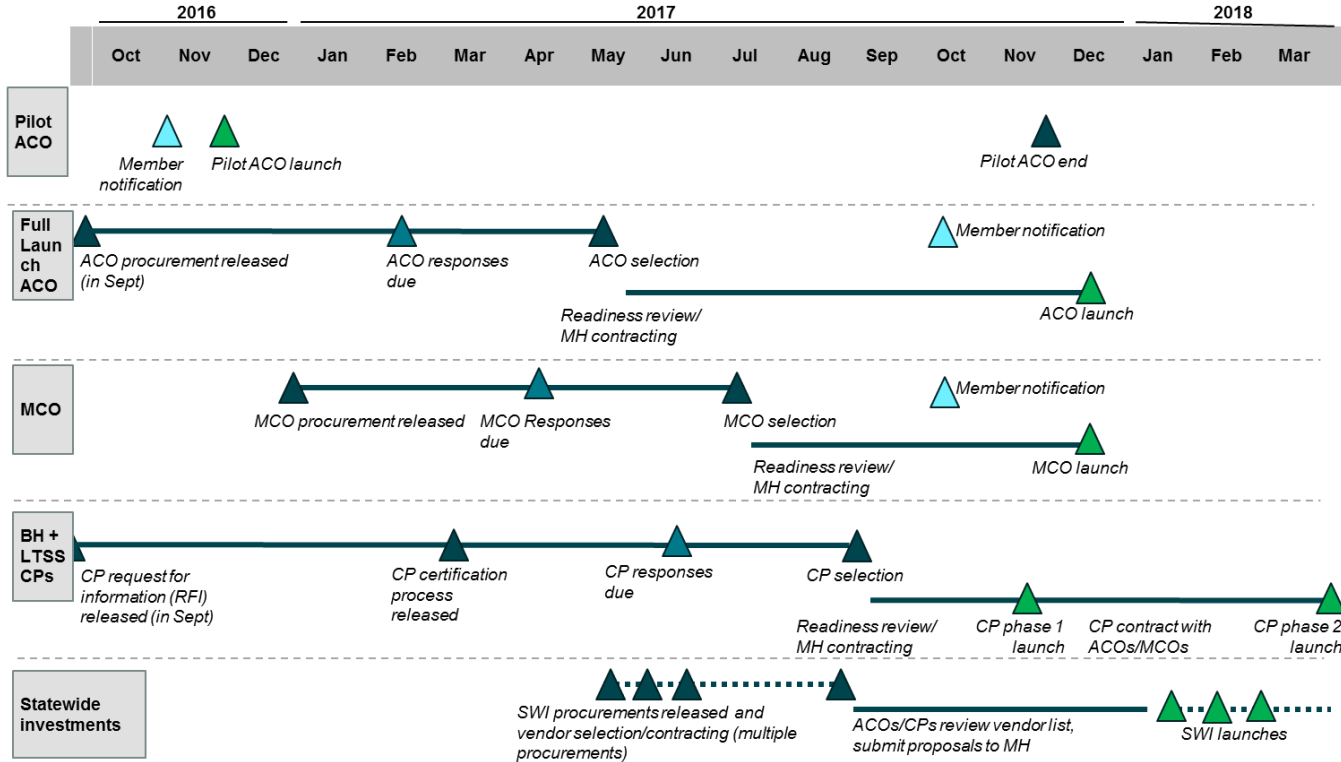
The transformation process accommodates modernization activities and development related to Accountable Care Organizations (ACO). As reflected in the Massachusetts State Innovation Model (SIM) proposal, MassHealth is accelerating its efforts to move towards alternative payment methods (APMs) at scale, with the goal of transitioning 80%+ of Members into alternative payment models.

The Commonwealth is preparing to embark on a bold effort to reshape our delivery system through value-based payment models. The launch of the ACO is a central component of MassHealth's strategy to achieve a person-centered, high quality, integrated, sustainable delivery system.

The success of those efforts depends, in large part, on enhancing and improving the Medicaid Enterprise Systems infrastructure, including improving performance of existing functionality and accelerating the development/build process to meet payment and care delivery reform milestones.



MassHealth ACO Implementation





Current MMIS Strengths



Up Time Performance

- Accommodates large transaction volumes (e.g. claims, eligibility, payments)
- UI response time experience is positive

Reliability

- Clean code deployed upon releases
- Deploys standardized and open interfaces

Staffing (State and DXC staff)

- Competence
 - End User confidence in state MMIS PM, BA, and Dev staff
 - 10 plus years vendor experience with the Massachusetts MMIS

Full Technology Refresh (2016)

- Updated technology and software infrastructure



Current MMIS Challenges



Long Software Development Cycles

- 4 cycles per year
- Current MMIS release schedule is full out to September 2018
- Policy and business changes are happening at a rapid rate

Policy Implementation Limitations:

- Limited use of data parameterization tables and user configurability
- Policy rules are mostly “hard-wired” by programming staff
- Limited use of COTS Technology/Tools
- UI’s and other batch components are mostly hard coded



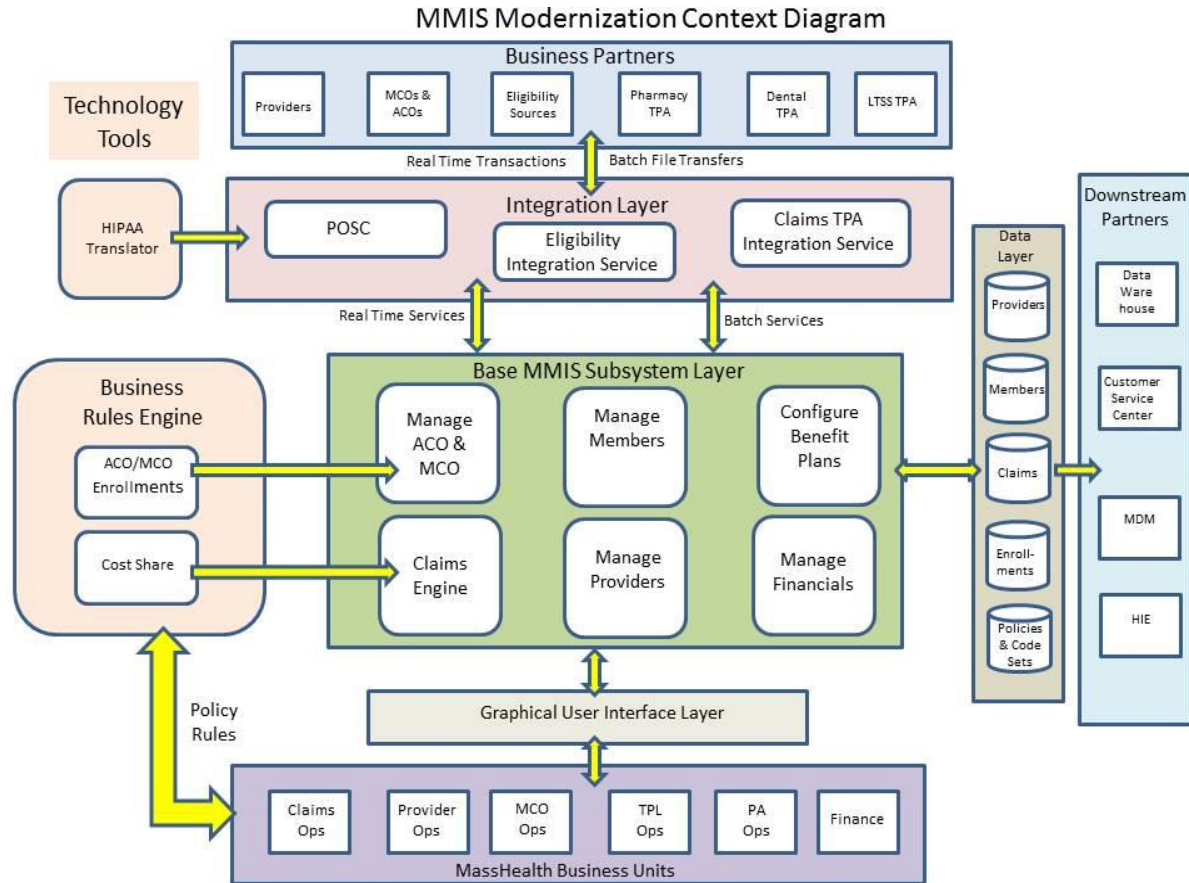
Modernization Objectives



1. Modularity
 - Design components as distinct functional services
 - Platform components on COTS solutions wherever possible
 - Design open, standardized interfaces and integration processes across platforms
 - Design components to work and grow across the Medicaid Enterprise
2. Flexibility
 - Enhance end user capacity to modify components
 - Remove dependencies on 'big bang' releases and hard wired program logic
3. Re-usability
 - Extend components to similar functional
 - Stand up products with ability to scale for growth
 - Utilize industry standards (e.g. HIPAA formats, 508/ADA compliance standards)
4. Maintainability
 - Deploy user maintainable components wherever possible
 - Enhance testing automation



MMIS Modernization Context Diagram





MMIS Modernization Initiative: BRE



Deploy a Business Rules Engine (BRE) Service and Implement the ACO Program

- Integrate an industry standard Business Rules Engine (BRE) into the Massachusetts Medicaid Enterprise System.
- The BRE will serve as the repository of existing and emerging Massachusetts Medicaid policy.
- SME's will control the development and deployment process by:
 - Defining the ACO policy logic directly into the BRE.
 - “Online” testing of developed policy logic
 - Provide production releases independent of the base MMIS



Executing the Business Rules Engine



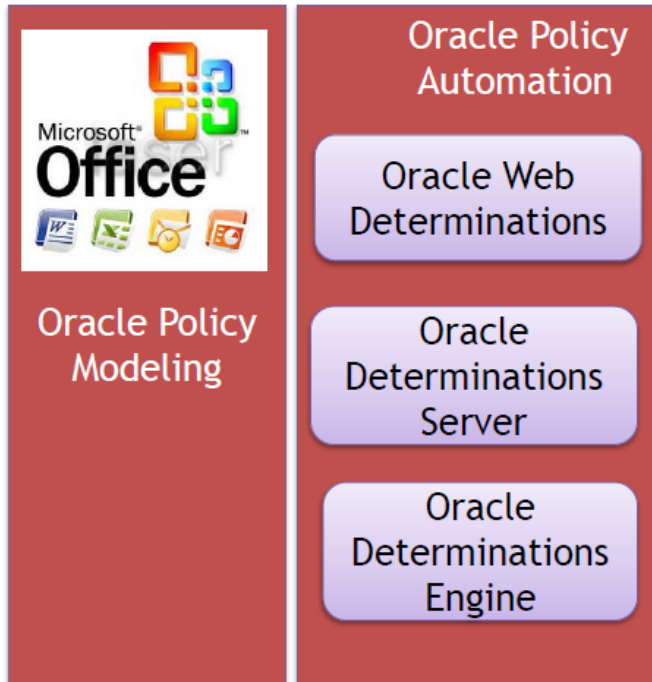
- A Business Rules Engine (BRE) is a software application or a system that is designed to manage and enforce business rules.
- It separates business rules from application code.
 - “Some assembly required” (integration)
- A full-function BRE has the following components:
 - **Business Rule Repository** A database storing the business rules defined by the users
 - **Business Rule Designer/Editor** An intuitive, easy-to-use, front-end application and a user interface that allows users to define, design, document, and edit business rules
 - **A Query and Reporting Component** Allows users and rules administrators to query and report existing rules
 - **Rules Engine Execution Core** Actual code that enforces the rules
- **Oracle BRE** is a Service Oriented Architecture Composite Application (SCA) that supports publishing Business Rules as a reusable service.
- Factors for Consideration:
 - **Cost of development and maintenance:** New skill set for MMIS Team and Medicaid
 - **Skills required for implementation:** Writing business rules (business users vs technical team)
 - **Architecture complexity:** Focusing on MMIS integration
 - **Future functionality:** Scalability



Architecture of the BRE



OPA is a suite of software products for modeling and deploying business rules within enterprise applications.



Oracle Policy Modeling is a desktop application for transforming legislation and policy documents into executable business rules written in Word and Excel documents using phrases in a language such as English.

OPA Web Determinations is an interview application that uses screens, rules and flows defined in Oracle Policy Modeling to deliver interactive assessments.

OPA Determinations Server is a service interface that exposes decision-making endpoints for deployed policy models. By passing data to OPA Determinations Server, and receiving responses in return, enterprises can integrate rule-based decision-making with other applications.

OPA Determinations Engine provides a simple API for rule execution that can be embedded into Java and .NET applications.



Sample Functionality



The BRE will allow the Commonwealth the ability to separate complex business rules from hardcoded rules in the MMIS System. The rules are stored in human readable text and easily updated, allowing the business to be agile around policy changes. In addition, OPA has capabilities to quickly assess the impact of existing and proposed policy.

EXAMPLES:

- **Enhance Enrollment Workflows**
 - Quickly update Aid Categories and evaluate impact on members using real data.
- **Member PCP Assignment**
 - Establish for PCP selection using distance, language and gender
- **Member Plan Assignment**
 - MMIS can call the BRE to execute assignment rules to determine plan assignment.
 - Enhanced assignment based on complex determination rules. (i.e., Family, History, ChoiceFactor, and Claims.



Sample Rules



- ✓ The member auto assignment business process shall establish business rules to assign a member to an ACO Plan based on member geographic (address) and demographic details (age, gender).
- ✓ The member auto assignment business process shall establish business rules to assign a member to an ACO Plan based on member care patterns (providers that a member has seen) based on claim/encounter history for provider usage.
- ✓ The member auto assignment business process shall establish business rules to assign a member to an ACO Plan based on member diagnosis based on claim/encounter history.
- ✓ The member auto assignment business process shall establish business rules to assign a member to an ACO Plan based on Plan target criteria based on minimum and maximum member population within a single ACO Plan.
- ✓ The member auto assignment business process shall establish business rules to assign a member to an ACO Plan based on target member populations by ACO Plan compared to Peer ACO Plans. The numbers below assume 5 ACO Plans and will need to scale as new ACO Plans are on-boarded.
- ✓ The member auto assignment business process shall establish business rules to assign a member to an ACO Plan based on target member populations by ACO Plan compared multiple Plans within a single ACO. The numbers below assume 2 ACO Plans under a single ACO organization.
- ✓ The member auto assignment business process shall establish business rules to assign a member to an ACO Plan based on target criteria for ACO risk level.
- ✓ The member auto assignment business process shall establish business rules to assign a member to an ACO Plan based on ACO performance metrics.
- ✓ The member auto assignment business process shall establish business rules to assign a member to an ACO Plan based on panel fragmentation rules.
- ✓ The member auto assignment business process shall establish business rules to assign a member to an ACO Plan based on a member's family assignments to an ACO Plan.
- ✓ The member auto assignment business process shall establish business rules to assign a member to an ACO Plan based on a member's previous Plan history to an ACO Plan.
- ✓ The member auto assignment business process shall establish business rules to assign a member to an ACO Plan based on member utilization and claim history details.
- ✓ The member auto assignment business process shall establish business rules to assign a member to an ACO Plan based on member to PCP relationship established by claim data
- ✓ The member auto assignment business process shall establish business rules to determine ACO, MCO, PCC, and FFS enrollment eligibility based on Aid Categories
- ✓ The business process shall establish business rules to determine lock-in and try-out rules and exceptions



Future Business Rules Engine Use

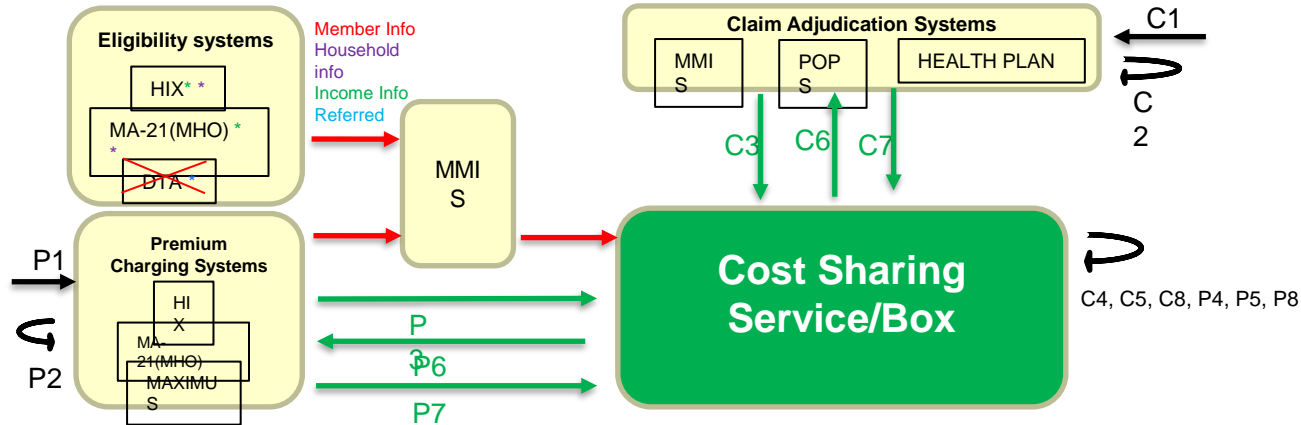


Extend the BRE as a service and handle Cost Sharing on the rules engine platform

- Stand up the processing rules for cost sharing on the BRE.
- Manage cost sharing thresholds for members and families.
- Utilize scalable and extensible MMIS integration services to communicate the member's cost share at the point of service.



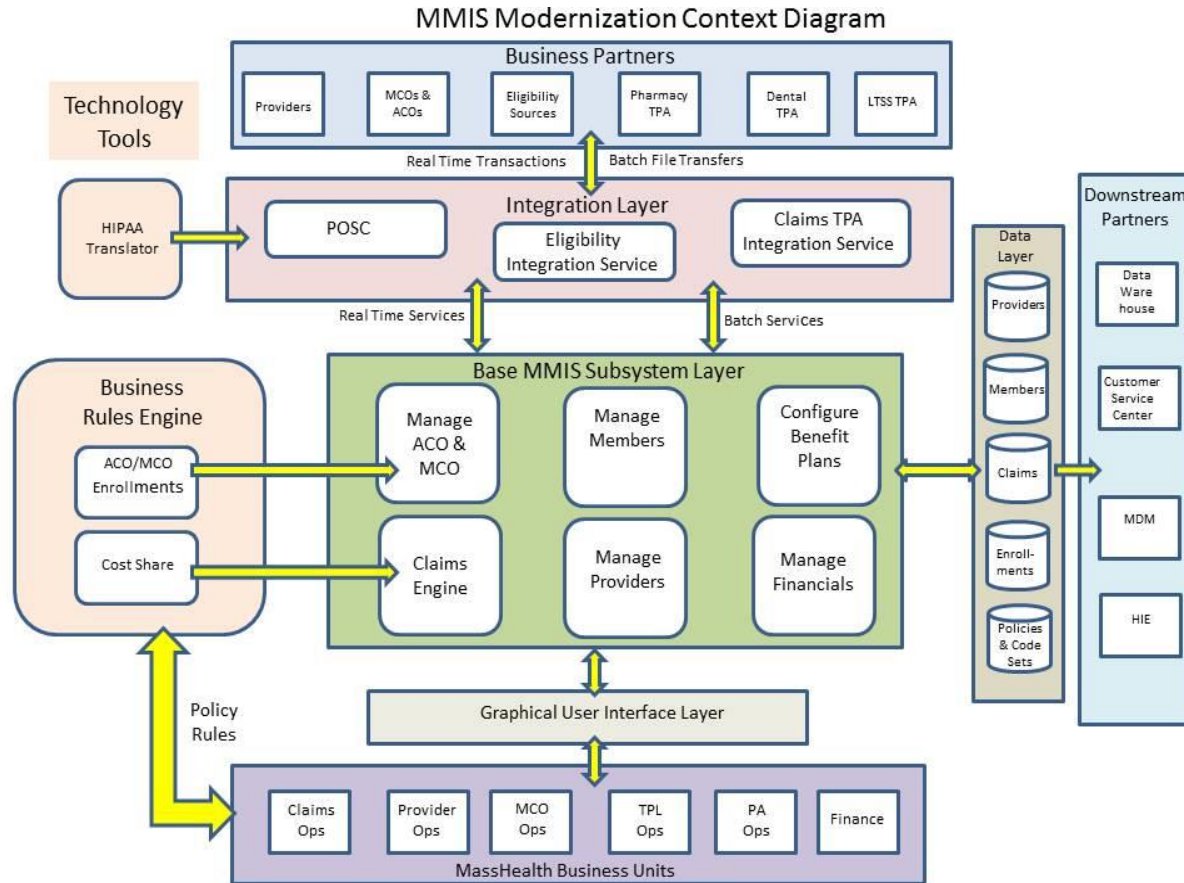
BRE Cost Sharing Conceptual Design



- C1: Applications receive information that effects the billing of member/family, including periodic billing events like monthly premiums
- C2: Application calculates net billable copayment amount
- C3: sends Cost Sharing request
- C4: Calculate Effective CoPay, Family Cap Gap, Member Cap Gap using previous CoPays, Family Cap, Individual Cap, MAGI Income details etc.
- C5: Persist Effective CoPay, Family Cap Gap, Member Cap Gap etc.
- C6: Send Cost Sharing Response
- C7: Cost Sharing Acknowledgement confirming Application used the calculated Cost Sharing details to bill.
- C8: Persist the acknowledge to confirm that CoPay calculated is the effective billed amount in the application
- P1: Premium billing event (including periodic billing like monthly premiums).
- P2: Application calculates net billable premium amount (or may be predetermined)
- P3: Send Cost Sharing request
- P4: Calculate Effective Premium, Family Cap Gap, Member Cap Gap using previous Premiums, Family Cap, Individual Cap, MAGI Income details etc.
- P5: Persist Effective Premium, Family Cap Gap, Member Cap Gap etc.
- P6: Send Cost Sharing Response
- P7: Cost Sharing Acknowledgement confirming Application used the calculated Cost Sharing details to bill.
- P8: Persist the acknowledge to confirm that Premium calculated is the effective billed amount in the application



MMIS Modernization Context Diagram





Medicaid Enterprise System – The SI Challenge

