

**State of Florida**  
**Agency for Health Care Administration (ACHA)**  
**“Modernization Using a Business Rules Management System (BRMS)”**

**December 16, 2012**

## **Introduction**

The State of Florida has determined that further modernization of its existing “ACCESS Florida” Eligibility System will best meet current business priorities and achieve its goal of compliance with the new federal regulations. Gartner has been asked to provide estimates of costs and schedule for the State to add a Business Rules Management System (BRMS) to the legacy ACCESS Florida system. The purpose of this report is to provide these estimates as well as identify a list of potential implementation vendors that can assist with this initiative. The estimates are based on Gartner’s experience and relevant industry data. These estimates are based upon Gartner’s independent review and do not rely upon State of Florida agencies’ cost estimates.

## **State of Florida’s Eligibility Systems’ Modernization Strategy**

The State of Florida has an established and mature set of functionality to support the determination of eligibility and processing of applications for healthcare and other social welfare benefits – this integrated application is known as ACCESS Florida.

- FLORIDA is a mainframe system implemented in 1992 and is based on the system successfully installed (and still in use) in the State of Ohio.
- Since 2004, the FLORIDA system has been upgraded and enhanced with a web-based front end that supports the Automated Community Connection to Economic Self Sufficiency Florida Program. The enhanced and upgraded system is known as ACCESS Florida which provides for a level of consumer self-service.

The State of Florida has decided to further invest in the existing ACCESS Florida system, thereby extending its useful life, enabling compliance with the Affordable Care Act (ACA) Modified Adjusted Gross Income (MAGI) rules (See Appendix A - Required Features of Enrollment Systems), and increase the system’s ability to respond to business and policy changes within the healthcare programs in a timely manner. The State has identified the addition and use of a “Business Rules Management System” as a suitable approach for achieving compliance with ACA MAGI related rules.

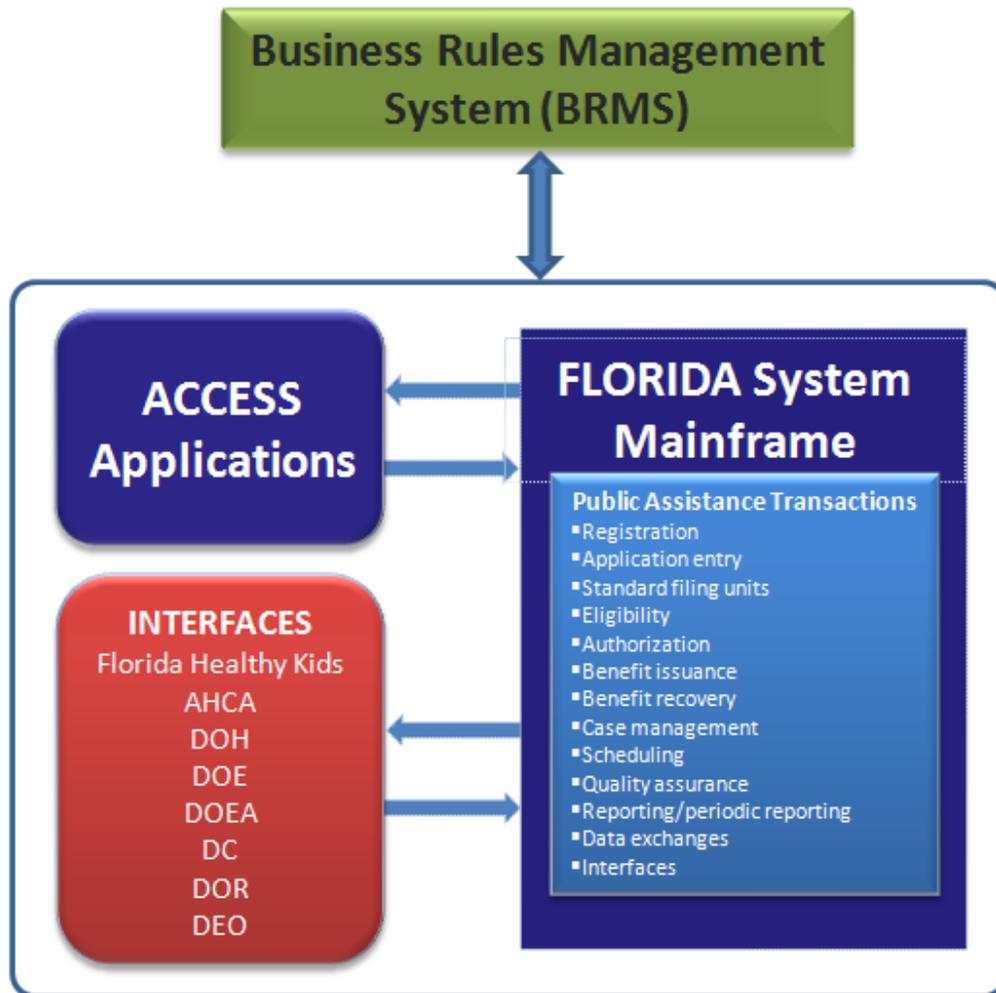
A Business Rules Management System (BRMS) is a specialized software component designed to support any business process logic that can be efficiently and comprehensively described as a number of interrelated business rules. A BRMS allows these rules to be externalized and separated into a dedicated software tool, typically using decision tables or a natural language. As a result, these rules would no longer be embedded in the programming code.

By integrating a suitable BRMS with ACCESS Florida, most of the future changes in eligibility determination rules for the State’s Medicaid programs will be made without having to change the core COBOL/IMS programs within the ACCESS Florida system. Depending on the choice of rule management technology platform, changes to existing and new business rules can be implemented by non-technical rule-authors that are provided with sufficient training and

guidance in the use of the BRMS, the broader systems and the impact of contemplated changes.

This system structure and approach is illustrated in Figure 1 below (illustration provided to Gartner by the State).

Figure 1. BRMS Integrated with ACCESS Florida – Conceptual Illustration



Extracting eligibility determination rules from ACCESS Florida into a separate and distinct BRMS is anticipated to yield the following benefits:

- **Agility:** Faster and easier to respond to changes in healthcare business rules (e.g. those required by legislation at the State or Federal level)
- **Costs:** Requires less effort, reduces dependency on technical staff, improves accuracy, and lowers costs of maintaining rules that change for the State’s healthcare programs
- **Sharing:** Where a rule is used in more than one system, consistency and shareability can be more easily assured
- **Quality:** Rules authoring tool support helps ensure the rules created are a true representation of the State’s healthcare programs’ policy and practice
- **Staffing:** Requirement for scarce and specialized legacy software skills is reduced

Established BRMS tools are available from a range of vendors in a small but fast-maturing market, including products from the following vendors<sup>1</sup>:

- Visual Rules Suite by Bosch Software Innovations
- Blaze Advisor by FICO (previously known as Fair Isaac)
- WebSphere Operational Decision Management (previously known as JRules) by IBM (ILOG acquisition)
- InRule by InRule Technology
- Oracle Policy Automation (OPA) by Oracle
- PegaRULES by Pegasystems
- Corticon by Progress Software (recent Corticon acquisition)
- JBOSS Enterprise BRMS (Commercial offering based on the open-source Drools product) by Red Hat

These products work on a variety of platforms including the mainframe and other server types, use industry-standard integration methods (i.e. Web Services, etc.) and can work with:

- The Microsoft Office desktop tools used by the State's healthcare policy staff and rules authors to define and document rules
- ACCESS Florida to process rules, determine eligibility and communicate the resulting determination decision

## Cost and Time Line Estimates to Create and Deploy

The State of Florida has requested an estimate of costs and timelines associated with the option of adding-on a Business Rules Management System to the existing ACCESS Florida System as a part of its overall objectives to achieve compliance with the Federal Affordable Care Act (ACA) changes to eligibility rules, including new criteria based on Modified Adjusted Gross Income (MAGI), and to comply with provisions of Florida House Bill 5301.

Project estimating is an iterative activity that must occur throughout the life of a project. In the early stages of a project's life cycle, such as the concept stage or feasibility and alternatives analysis as is the case with this effort, less information is known about the exact nature of the required work to complete the project. These early estimates are by definition at a higher level, and are "order-of-magnitude" estimates. Early estimates are rough and in many cases have a variance greater than +/- 70%, or more, from the actual effort required to complete the work. For this effort, Gartner combined several industry standard estimating techniques such as top down estimating, analogous estimating, and three-point estimating to narrow its estimates to a range of +/- 25%, in the process using the experience of its subject matter experts, its proprietary research databases, and observations about the experience of other organizations both in public and private sectors with projects of similar scope, complexity, and base of technologies.

As the project progresses through the lifecycle of Project Management stages, and more information regarding details of the project and the type of work required becomes available, estimates need to be revisited and adjusted. More detailed information often changes the initial perceptions of expected work effort. As a result, initial project estimates should be reevaluated repeatedly throughout the project's life. Revised estimates become more accurate as greater

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<sup>1</sup> More detail on the current state of the BRMS market and vendors is included in the Gartner Research publication "Vendors in the Business Rule Market, 2012" Published: 16 February 2012 ID:G00226647

detail becomes known about the work to be accomplished. As the State of Florida may rely on this early stage estimates to appropriate budgets for achievement of time sensitive regulatory objectives, it is advisable for the final appropriations to include a minimum adjustment of 25% (i.e., budget estimate x 1.25) in order to avoid project delays caused by funding constraints.

As Florida progresses through the project lifecycle, clearly specified and detailed requirements will be critical to the refinement of these initial estimates. A number of other factors will impact the quality and accuracy of the refined estimates such as competitive bidding, quality of State and vendor project teams, project governance and change control.

There are two options under considerations by State of Florida:

**Option 1**

Option 1 is for all MAGI based eligibility rules to be implemented in a Business Rules Management System that will be added to the existing FLORIDA ACCESS System. The total one-time implementation cost estimate for this option is approximately \$23,500,000.

**Figure 2. BRMS Add-On to Mainframe for New MAGI Rules Only Cost Estimate**

	2013-14	2014-15	2015-16	2016-17	
<b>Cost to Create</b>					
					<b>Total</b>
<sup>1,2</sup> Services	\$ 10,500,000	\$ 5,100,000	\$ -	\$ -	\$ 15,600,000
<sup>3</sup> Hardware	\$ 3,000,000	\$ 500,000	\$ -	\$ -	\$ 3,500,000
<sup>4</sup> COTS Software	\$ 1,800,000	\$ 500,000	\$ -	\$ -	\$ 2,300,000
<sup>5</sup> PMO and IV&V	\$ 1,500,000	\$ 600,000	\$ -	\$ -	\$ 2,100,000
<b>Annual Cost:</b>	<b>\$ 16,800,000</b>	<b>\$ 6,700,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 23,500,000</b>
<b>Cumulative Cost:</b>	<b>\$ 16,800,000</b>	<b>\$ 23,500,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>Total Implementation Costs</b>

**Cost Estimate Assumptions:**

1. State of Florida will use an experienced third party firm to develop and deploy this option
2. The vendor’s average blended labor rate is assumed at \$125 per hour for the required experienced resources
3. Hardware estimate includes potentially required hardware upgrades to the Mainframe, as well as the required dedicated or virtual servers for an external BRMS and Enterprise Service Bus (ESB) backbone
4. COTS Software estimate includes software licensing costs for an internal (run natively on the mainframe) or external BRMS, ESB, and any additional software utilities and development and testing environments
5. PMO and IV&V/QA Services are estimated at 10% of the project’s overall costs
6. The estimates above do not include the ongoing maintenance and operational costs

The timeline to develop and deploy option 1 based on Gartner’s knowledge of the industry and projects of similar scope, is estimated to be between 10 – 16 months. State of Florida needs to ensure all critical functionality related to the mandated CMS deadline of January 2014 are prioritized, time boxed, and implemented first.

The following is an estimated timeline for the key milestones related to Option 1:

<b><i>Development Stages</i></b>	<b><i>*Duration</i></b>
Requirements Development	2 – 3 Months

High Level and Detailed Design	1 – 3 Months
Construction	2 – 3 Months
Testing	3 – 4 Months
Implementation and Training	2 – 3 Months
<b>Total</b>	<b>10 – 16 Months</b>

\*Note: The Duration of some of the stages will overlap based on the vendor suggested methodology.

## Option 2

Option 2 includes the implementation of Option 1, and further adding and implementing the rules related to the existing non-MAGI Medicaid Programs, in addition to ACA MAGI, in the Business Rules Management System that is added to the existing FLORIDA ACCESS System. The total one-time implementation cost estimate for this option is approximately \$39,000,000.

**Figure 3. BRMS Add-On to Mainframe for ACA MAGI and All Non-MAGI Healthcare Rules Cost Estimate**

	2013-14	2014-15	2015-16	2016-17	Total
<b>Cost to Create</b>					
<sup>1,2</sup> Services	\$ 10,500,000	\$ 5,200,000	\$ 7,200,000	\$ 1,900,000	\$ 24,800,000
<sup>3</sup> Hardware	\$ 3,000,000	\$ 500,000	\$ 2,500,000	\$ 1,300,000	\$ 7,300,000
<sup>4</sup> COTS Software	\$ 1,800,000	\$ 1,000,000	\$ 500,000	\$ -	\$ 3,300,000
<sup>5</sup> PMO and IV&V	\$ 1,530,000	\$ 670,000	\$ 1,020,000	\$ 360,000	\$ 3,580,000
<b>Annual Cost:</b>	<b>\$ 16,830,000</b>	<b>\$ 7,370,000</b>	<b>\$ 11,220,000</b>	<b>\$ 3,560,000</b>	<b>\$ 38,980,000</b>
<b>Cumulative Cost:</b>	<b>\$ 16,830,000</b>	<b>\$ 24,200,000</b>	<b>\$ 35,420,000</b>	<b>\$ 38,980,000</b>	<b>Total Implementation Costs</b>

### Cost Estimate Assumptions:

1. State of Florida will use an experienced third party firm to develop and deploy this option
2. The vendor's average blended labor rate is assumed at \$125 per hour for the required experienced resources
3. Hardware estimate includes potentially required hardware upgrades to the Mainframe, as well as the required dedicated or virtual servers for an external BRMS, Enterprise Service Bus (ESB) backbone, and Business Process Management Suite (BPMS)
4. COTS Software estimate includes software licensing costs for an internal (run natively on the mainframe) or external BRMS, ESB, BPMS (required for process agility), and any additional software utilities and development and testing environments
5. PMO and IV&V/QA Services are estimated at 10% of the project's overall costs
6. The estimates above do not include the ongoing maintenance and operational costs

The timeline to develop and deploy option 2 (including the development and deployment of Option 1) based on Gartner's knowledge of the industry and projects of similar scope, is estimated to be between 20 – 25 months for the incremental effort above and beyond Option 1 activities, and 30 – 41 months for the entire effort.

The following is an estimated timeline for the key milestones related to Option 2, the additional project activities required once option 1 is developed and deployed:

<b><i>Development Stages (Incremental to Option 1)</i></b>	<b><i>*Duration</i></b>
Requirements Development	4 – 5 Months
High Level and Detailed Design	3 – 4 Months
Construction	4 – 5 Months
Testing	5 – 6 Months
Implementation and Training	4 – 5 Months
<i>Total Incremental Activities</i>	<i>20 – 25 Months</i>
<b><i>Total Project Effort</i></b>	<b><i>30 – 41 Months</i></b>

*\*Note: The Duration of some of the stages will overlap based on the vendor suggested methodology. These estimates are incremental to the Option 1 timeline estimates.*

## Potential Implementation Partners

The modernization of eligibility systems is an area of intense activity in many states. To Gartner’s knowledge, all leading Systems Integrators (SIs) who are working on eligibility modernization projects are designing and implementing solutions that in all cases include rules extraction to a BRMS.

The following non-exhaustive list includes leading SIs that Gartner knows to be actively involved in eligibility determination projects and are also available on the State of Florida Information Technology (IT) Consulting Services List:

[http://www.dms.myflorida.com/business\\_operations/state\\_purchasing/vendor\\_information/state\\_contracts\\_agreements\\_and\\_price\\_lists/state\\_term\\_contracts/information\\_technology\\_it\\_consulting\\_services/contractors](http://www.dms.myflorida.com/business_operations/state_purchasing/vendor_information/state_contracts_agreements_and_price_lists/state_term_contracts/information_technology_it_consulting_services/contractors)

- Accenture
  - Accenture HHS practice has recent applicable experience in a number of complex projects including CA, ID, KA and NC
  - Ranked 7<sup>th</sup> largest Implementation Services Vendor to Government in the US based on 2011 market share
- CGI
  - CGI has first-hand experience with operations and maintenance of the CRIS-E system, originally developed by Deloitte in late 1970s for Ohio, and then later transferred to a number of states around the country, including Florida.
  - Ranked 11<sup>th</sup> largest Implementation Services Vendor to Government in the US based on 2011 market share
  - CGI has experience working on a number of important Medicaid-related systems issues at the Federal level and has been chosen by CMS to build the HIX Federally Facilitated Exchange system

- Deloitte
  - Deloitte originally developed the CRIS-E system in late 1970s for Ohio. CRIS-E was later transferred to a number of states around the country, including Florida.
  - Original SI to customize and implement FLORIDA and remains the Maintenance and Operations vendor contracted to provide technical, programming and configuration support
  - Ranked 12<sup>th</sup> largest Implementation Services Vendor to Government in the US based on 2011 market share
  
- IBM Global Services
  - IBM has a comprehensive approach to eligibility based on the CURAM platform
  - Ranked 6<sup>th</sup> largest Implementation Services Vendor to Government in the US based on 2011 market share
  
- MAXIMUS
  - Not ranked in the top 100 largest Implementation Services Vendor to Government in the US
  - MAXIMUS recently acquired PSI, which has a demonstrated track record and staff with the experience and capabilities to perform the work identified in this report.

## Appendix A – Affordable Care Act Required Features of Enrollment Systems

Required Feature of State Enrollment System	Statutory Basis in ACA
Provide individuals and families the option of an online, self-service process to apply for and renew coverage	§1413 and §2201, creating new §1943(b)(1) of the Social Security Act (SSA)
Provide meaningful application support and alternatives to the online application for those who want them	Support: §1311(i) and §2201 (New SSA §1943(b)(1)(F)) Alternatives: §1413
Retrieve and exchange relevant eligibility data from available databases, to the maximum extent practicable	§1413(c) and §2201, new SSA §1943(b)(3)
Replace paper-based procedures with electronic ones	§1411(c), §1413(c) and §2201, new SSA §1943(b)(3)
Ensure smooth transitions between all health programs	§2201, new SSA §1943(a) and (b)
Use secure interfaces and safeguard shared data	§1413(c) and §2201, new SSA §1943(b)(1)(D)
Facilitate cross-program enrollment initiatives, such as Express Lane Eligibility	§2002
Function as a doorway to other critical safety-net programs, including available state or local public programs, in addition to all health subsidy programs and other human services	§1311(a) and (d)(4)(F); §1561
Provide presumptive eligibility	§2202 expands this option for state Medicaid programs
Allow for timely, cost-effective IT systems updates and modifications	§1561
Ensure that all new systems and features are built using technology that can be scaled larger and that promotes integration system-wide	§1561