

**Information Technology Policy  
Commonwealth of Pennsylvania  
Governor's Office of Administration/Office for Information Technology**

<b>ITP Number:</b>	<b>ITP-INT006</b>	
<b>ITP Title:</b>	<b>Business Rules Engine</b>	
<b>Issued by:</b>	<b>Deputy Secretary for Information Technology</b>	
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<b>Domain:</b>	<b>Integration</b>	
<b>Discipline:</b>	<b>Integration Software</b>	
<b>Technology Area:</b>	<b>Business Rules Engine</b>	
<b>Revision History Date:</b>	<b>Description:</b>	
<b>October 25, 2010</b>	<b>ITP Refresh</b>	

**Abstract:**

The purpose of this Information Technology Policy (ITP) is to establish enterprise-wide standards and guidance for business rules engines. A business rule engine (BRE) is a specific collection of design-time and runtime software that enables a business organization to explicitly define, analyze, execute, audit, and maintain a wide variety of business logic, collectively referred to as "rules."

A BRE enables information technology (IT) and/or business staff to define rules using decision trees, decision tables, pseudo-natural language, programming-like code, or other representation techniques. Unlike traditional application development approaches, a BRE isolates the rule representation from the business processes, strategies, and tactics by providing for explicit rule management. This reduces the need for application programming changes to accommodate a business rule change.

A BRE provides features to analyze rules for rule conflicts, rule consistency, and other quality issues. A BRE allows for auditing of the rule execution path and firing order, and provides rule repository and version control features to maintain and enhance the rule base.

In addition to the rule externalization capabilities (separating rules from programming code), a BRE can provide higher-level rule-processing capabilities, such as inference processing (forward chaining, goal-directed backward chaining), case-based reasoning, and advanced heuristics. Business strategists, business analysts, and process owners can use diagnostic capabilities, rule execution audit trails, and heuristic analysis to mine past performance to inform future strategy selection.

The objectives of a BRE include:

- Improve agility defined as the ability of an organization to sense environmental change and to respond efficiently and effectively to that change.
- Reduce development and maintenance times with the separation of policy and rules for governance from application code. Eliminates the need for redundant application program changes through re-use of externalized rules and rule sets.
- Knowledge retention. Clarify the purpose of and dependencies among rules and policies through clearly expressed rules which are documented in a central repository.
- Encourage consistent practices.
- Ensure the interoperability and integration of existing enterprise product standards.
- Improve alignment and understanding between business and IT.
- Improve transparency.

**General:**

This ITP applies to all departments, boards, commissions and councils under the Governor's jurisdiction. Agencies not under the Governor's jurisdiction are strongly encouraged to follow this policy.

**Policy:**

New and existing applications and service-oriented integration projects that could benefit from a BRE are to use the current BRE as defined in STD-INT006A *Business Rules Engine Product Standard*.

Agencies are to use a Commonwealth standard BRE when any of the following are true:

- Decisions are complex and depend on other sets of logic or rules.
- A high decision transaction rate or a high volume of decisions is required.
- Policies and business decisions change often and require timely implementations.
- Transparency of decision logic is required for reporting, audit, or compliance.
- Policy and business decision development, sharing, and maintenance requires a closer, more collaborative environment for business and IT users.

Agencies are to establish rule organization, naming, and categorization standards, prior to or during product implementation.

Agencies are to define rules such that each rule or decision policy is to deal with one issue.

Agencies are to maintain only one rule repository to promote re-use and vocabulary standardization. Agencies are to use one of the current standard databases as prescribed in ITP-INF001 *Database Management Systems* for the repository.

Agencies are to define and implement a business rules governance process prior to product implementation. The process is to include procedures for access management, review and approval, change management (versioning), and rule conflict mediation. Agencies are to leverage product workflow capabilities.

Major revisions to existing applications using a BRE and not using the current standards will be reviewed as part of the IT Procurement Review Process to determine if the investment warrants a change in standards at that time. For applications using BRE products classified as "Retire," a date for migration from this technology has been established. A definition for the classification of "Retire" can be found in *Technology Life-Cycle Classifications*.

IT projects related to application integration are to be subject to review prior to inception for compliance with this standard through a review by Communities of Practice (CoP) and/or the Procurement Review Processes.

### **Refresh Schedule:**

All standards identified in this ITP are subject to periodic review and possible revision, or upon request by the Enterprise Architecture Standards Committee (EASC).

### **Exemption from This Policy:**

In the event an agency chooses to seek an exemption, for reasons such as the need to comply with requirements for a federally mandated system, a request for waiver may be submitted via the Commonwealth of PA Procurement and Architectural Review (COPPAR) process. Requests are to be entered into the COPPAR Tool located at <http://coppa.pa.gov/>. Agency CIO approval is required. Contact your agency [CoP Planner](#) for further details or assistance.

### **Questions:**

Questions regarding this policy are to be directed to [RA-ITCentral@pa.gov](mailto:RA-ITCentral@pa.gov).

### **Policy Supplements:**

[STD-INT006A - Business Rules Engine: Product Standard](#)

### **References**

[Technology Life-Cycle Classifications](#)