

Enterprise Case Management and Tracking

BACKGROUND

Government agencies face an array of challenges in providing efficient, cost-effective, and timely services to citizens, as the processes involve collecting, organizing, and disseminating vast information; applying and executing the business processes and policies; and tracking the progress case by case. Whether a case is an individual or an event or task, case management involves capturing and storing expert knowledge in a repository for the purposes of automation and cycle time reduction, moving the case through the business processes and workflows, and tracking the case through its life cycle. The case management processes may need to interface with several enterprise applications.

This point paper presents a strategy and an architecture to implement an enterprise case management solution and knowledge capture that can be implemented at an organization. The scalable architecture can be adapted to any type of program.

DISCUSSION

CNSI's Case Management solution consists of a case management tool, Case Manager, business rules engine, RuleIT, and our enterprise architecture and integration process.

Case Manager

CNSI's case management solution, Case Manager, is a web-based, enterprise-wide, reportable events system that can be easily adapted to any type of domain for case or event tracking. The application has three stages: Assessment, Plan of Action, and Tracking. In the Assessment stage, the record of the individual, case, or event under the case management purview is assessed for validation and the application is categorized. In Plan of Action stage, the application is given a plan of action and it goes through a chain of required approvals. In the Tracking stage, follow-up action is taken, as the status of the application becomes visible to authorized users. Figure 1 shows the three stages in case management.

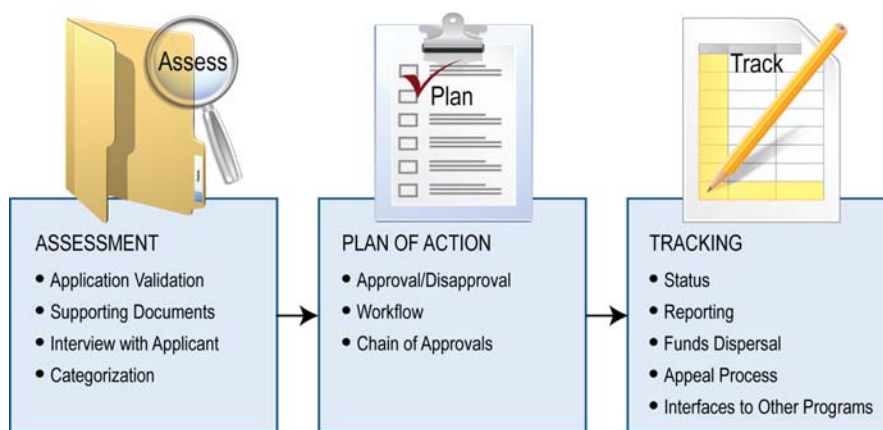


Figure 1: Case Manager

The application is capable of spawning new events from a case, transforming one type of case into another, splitting an event into multiple events, or combining two or more events into a single event. CNSI's Case Manager is being used by the Department of Health and Human Services in the State of Maine to track critical events related to its client citizens. This system is also used by CNSI's Medicaid Management Information Systems (MMIS) to validate, track, and reimburse Medicaid payments.

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Key strengths of CNSI's Case Manager application are as follows:

- Case Manager is dynamic and can be modified (i.e., fields added/removed) by the end-user to keep up with new changes, as required.
- Case Manager allows the end-users to utilize its Business Process Wizard that interacts with the different modules (Assessment, Plans, and Tracking) to create one or more customized business processes to enforce compliance, quality and timeliness by the end-users of the system.
- Case Manager can be secured at the application, module, page, row, and column levels.

CNSI's Case Manager has a Geographic Information Systems (GIS) interface, which can be used for providing a geographical context to a specific case or event and for visually aggregating the application data for analysis and reporting. A sample screen is shown in Figure 2.

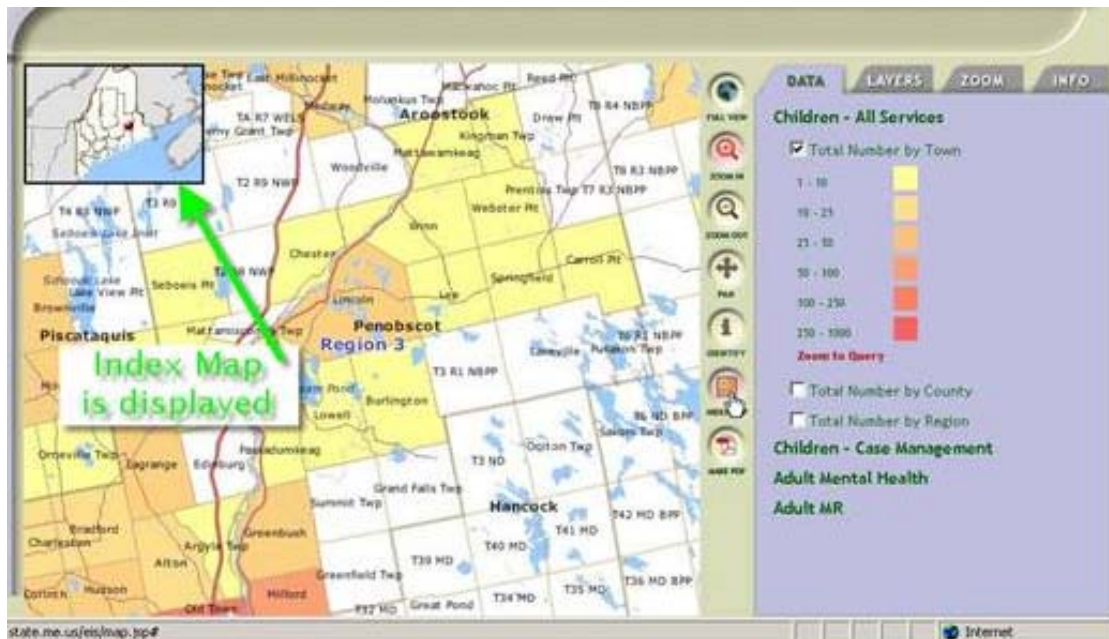


Figure 2: GIS Screen for a Case Manager application

RuleIT®

System developers struggle to keep pace with business dynamics that alter on a daily basis. In traditional system development methodologies, business rules, or the policies and logic of a business, are buried in application program code, embedded in database structures, or coded as database triggers and stored procedures. In IT applications, business rules change more frequently than the rest of the application code. Typically, 80 percent or more of software maintenance is related to enhancements and new features rather than defect correction. Changing the business logic requires source code changes, which, in turn, increase the likelihood of defects. Furthermore, the code may need to be reverse-engineered to extract the embedded business rules, if the original documentation or vendor is no longer available. Given the ever-changing business environment, coupled with new software architecture models, modifications and enhancements to systems are time-consuming, cumbersome and expensive. A rules-based application provides the mechanism for capturing policies and rules that are subject to frequent changes, and for implementing these changes quickly and easily.

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within a business application. The business logic is abstracted from the application code, enabling business users to modify rules with minimal to no IT intervention.

CNSI's business rules engine, RuleIT, is developed on the Java/J2EE® architecture platform, making it portable across many hardware and software platforms. RuleIT acts as a code repository for various business situations. It accumulates business knowledge in small manageable pieces. Business relationships, policies, rules, and regulations have become increasingly complex and may result in different paths of action based on multiple parameters. These parameters are different from one business application domain to the other. RuleIT identifies each business application domain as a rules engine. Each engine has multiple knowledge bases that serve diverse requirements, and each knowledge base has its own rules and methods. Figure 3 depicts the high level architecture for RuleIT.

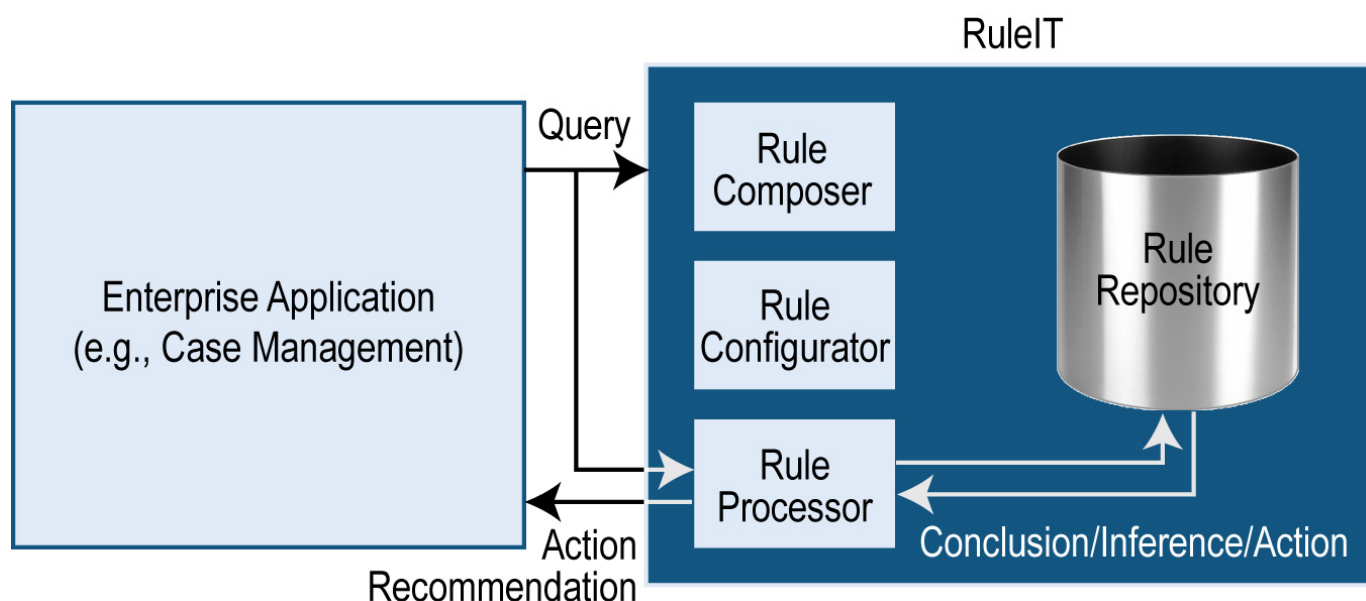


Figure 3: High Level Architecture for RuleIT

RuleIT is comprised of four major components: Rule Repository, Rule Composer, Rule Configurator, and Rule Processor. Rule Repository is the centralized store for all defined rules, and can store rules for multiple applications. Rule Composer is a user interface used for creating, editing, exporting and importing rules to the repository. Rule Configurator is used to define and create variables, constants and methods. Rule Processor is an Enterprise Java Bean® (EJB) that is the runtime rule evaluator or executor for rules defined in the Rule Repository.

RuleIT uses English-like language for describing the rules, making it easier to read and write rules for IT staff, business analysts and management within organizations. The different blocks used to build and write a rule can be customized and named using terminology related to the business. The RuleIT components allow the development team to define rule syntax and grammar based on business and domain needs. External functions deployed within RuleIT as services can be given a customized English name for ease of use and familiarity to business users. This enables business analysts and other subject matter experts to quickly understand and comprehend the rules as coded and stored in the RuleIT Repository.

Enterprise Architecture and Integration

With CNSI's skills and experience in Federal Enterprise Architecture (FEA), enterprise application integration, and complex application development and deployment, we can integrate our Case Manager and RuleIT applications and provide a seamless

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case management solution for any organization. This solution can be integrated or interfaced with the organization's other enterprise applications within the scope of FEA standards.

Figure 4 depicts CNSI's methodology and process for enterprise architecture and integration.

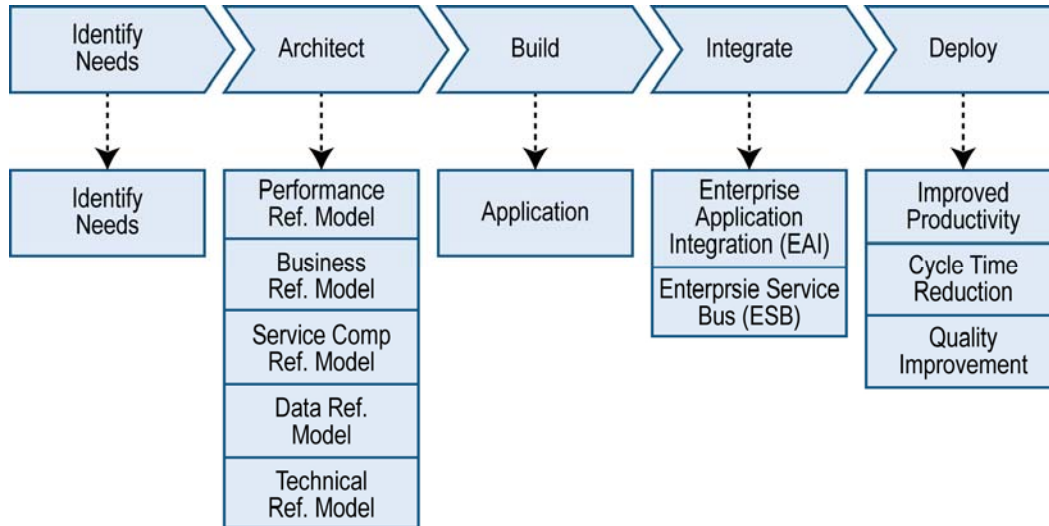


Figure 4: Enterprise Architecture Process

RECOMMENDATION

Develop a prototype to demonstrate an integrated case management solution with Case Manager and RuleIT, using FEA methodology.

ABOUT CNSI

CNSI is a leading provider of technology-enabled solutions that accelerate business transformation. CNSI partners with its clients to align, build and manage a continuum of technology solutions that improve process efficiencies and streamline operations. Our professionals have built a reputation for understanding what it takes to help clients align IT with their mission and business objectives. Headquartered in Rockville, Maryland with offices throughout the U.S., and with an employee base of approximately 1,300 IT professionals and revenue of more than \$160 million in FY 2008, the company has established presence and strong domain expertise in prominent industries, including Defense, Energy, Financial Services, Healthcare, Homeland Security/Law Enforcement and Transportation. For more information, please visit www.cnsi-inc.com.