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Approach and Technology Features for Excellence in Unemployment Insurance System Modernization
Executive Overview

Integrated Unemployment Insurance (UI) applications underpin the ability of governments to administer the UI laws and policies of their jurisdictions in an efficient, fair and transparent manner. This paper accomplishes three key objectives. First, it explains the concept of a vendor-supported packaged solution for UI. Second, it explains why vendor-supported packaged solutions reduce the time, cost and risk of large-scale system modernizations. Third, it provides a checklist of criteria helpful in matching a vendor-supported, packaged system to the performance and technology and vendor requirements of the agencies charged with administering the UI program.

Introduction

Many large-scale UI system modernization efforts have been less than fully successful. Such experiences have resulted in wasted time, energy and taxpayer money. In some cases, the limited results have led UI agencies to encounter increased difficulties in paying claimants, and accurately assessing and collecting taxes – failing in delivering the crux of the UI program’s mission.

Yet, while the risk associated with failure is high, so too is the risk associated with continuing business as usual. For example, many states have similar business, technical and organizational problems, including:
Business Problems

• UI staff spending time on processes that could and should be automated

• Difficult to implement changes necessary to keep up with customer and legislative demands

• Growing expectation of customers for better service – including self service

Technical Problems

• Inflexible legacy systems

• Inability to replace the skills required to maintain and enhance COBOL and Assembler applications

• A confusing mix of platforms and technologies, making it difficult to streamline its business processes

• Disparate data files, making it difficult to access data in a logical, related fashion

Organizational Issues

• Shortage of knowledgeable UI staff resulting from early retirement incentive plans

• Difficulty in finding, recruiting and retaining IT personnel trained in COBOL

Thus, UI agency leadership is presented with a conundrum. They cannot maintain business as usual, yet they cannot risk a failed implementation.
Recommendations

The ultimate UI solution should be a true web services SOA-based solution that aligns with the business and technical objectives of a UI agency. Not only should the solution meet the technical architecture requirements, it should also be a platform that enables rapid and flexible configuration of the system to meet specific UI requirements. Any proposed solution should offer the flexibility of a custom solution while providing the predictability of a commercial-off-the-shelf (COTS) solution. The combination of a configurable and agile solution combined with the certainty and reliability of a proven technology will lower the overall risk profile of the project; provide the lowest total cost of ownership and the fastest time to value for the UI agency, the State and its taxpayers.

Through this approach, the agency will enjoy accelerated knowledge transfer, lifetime support, continuous product improvement, and an end-to-end solution.

An integrated unemployment insurance system should facilitate a wide variety of improvements in all units that interact with claimants and employers. Below are a variety of technical features and vendor requirements UI agency should consider when procuring an Unemployment Insurance administration system.
Understanding the Vendor-Supported, Packaged Solution

In order to understand why a vendor-supported, packaged UI solution is the right approach, you must first understand what it is.

Packaged solutions, also known as commercial-off-the-shelf (COTS) solutions, are ready-made and available for sale, lease, or license to the general public. They are often used as alternatives to in-house developments. The use of COTS is becoming widespread because such products offer significant savings in procurement, a reduction of overall system development and costs -- as components can be bought or licensed instead of being developed from scratch -- and reduced maintenance costs.

Why is a Vendor-Supported, Packaged UI Solution Right for a UI Agency?

UI agency leaders across the country have sought ways to minimize the time, cost and risks associated with system modernization efforts. The implementation of a vendor-supported, packaged UI solution offers the agency the opportunity to follow the patterns of success others have used. Benefits of a packaged implementation are described below:

During Design, Development and Deployment

- **Implements industry best practices.** The agency’s business processes and screen flow should reflect and support the tasks the agency staff must perform while taking full advantage of the best practices known throughout the industry.

- **Interfaces** readily with enterprise-wide applications in batch, on-line, and data level modes.

- **Minimizes training** time through use of common interfaces like web-based browsers, on-line and in-person training programs, full documentation, and on-line help.

- **Permits multiple implementation approaches.** Transitions smoothly from current IT infrastructure and business processes into target state by incremental deployments of new application capabilities.

During Ongoing Maintenance and Enhancements

- **Is regularly upgraded by its vendor.** Commercial-Off-The-Shelf (COTS) packages are frequently refreshed and thoroughly tested by the product vendor to ensure the business process and underlying technologies remain current, thereby simplifying future maintenance.
and enhancements. Regular enhancements keep the new system from becoming a “legacy” system that is difficult to maintain, modify, scale and respond. This significantly reduces the time and resources needed for internal system development and delivers new functional capabilities and changes at lower cost. Additionally, when the package comes from a global vendor, system upgrades enable the agency to incorporate best practices developed and proven in the United States and around the world.

- **Makes routine changes quickly.** The faster the change, the better able an agency is to implement new programs, synchronize policies, forms, penalties and interest, compliance tolerances and other processing variables with the requirements of new legislative and regulatory mandates. Ideally, administrative personnel should be able to undertake most routine changes, without the help of state Information Technology staff. This is because solidly architected vendor-supported systems hold business rules and values in “soft tables” based on entity relationship diagramming. This architecture frees the agency from dependence on technical programming staff.

- **Facilitates the development of new services and products** – web self-service, tailored compliance workflows, automated payment agreements, third party affinity programs, and other innovations greatly improve the service and performance profile of the agency.

- **Adapts swiftly to new business strategies and regulatory mandates.** The system should help you offer a greater variety of products and services and get them quickly to claimants and employers and other partners using a variety of communication channels—call centers, telephone, internet, email, etc.

What are the System Integration Requirements for a COTS Implementation?

An integrated unemployment insurance system should enable high performance integration of business processes for employers, claimants and job seekers, internal agency users, and external third parties including Federal government partners.

In addition, the system should embody system characteristics that enable an agency to scale IT capacity to required levels based on changing demands, and to provide a flexible architecture which allows agencies to create and deploy changes to business processes and rules in a timely and effective manner.
The proposed software must use a pervasive Service Oriented Architecture (SOA) that will employ widely recognized and generally accepted open standards. Four key measures are:

- Comply with standards, specifications, and principles that will result in a SOA for that uses open standards-based solutions to construct and deliver online government services;
- Be loosely coupled with the technologies employed;
- Optimize the reuse of services efficiently; and
- Be flexible enough to take advantage of shared and reusable components.

Integration – Business Services

The system should provide capabilities to support integration of cross-functional and cross-agency business processes, using industry standard process integration -- Business Process Execution Language (BPEL) -- and SOA methods and techniques. The use of BPEL and SOA provide current integration business value while enabling an agency to support adaptability and flexibility in response to rapid changes in the business environment.

Additionally, the system should maximize the ability of business users to control the business flows and business outcomes of key processes, using a standard user interface for rules and process flow management.

Key capabilities in this area include:

- Ability to transform policy documents (legislation, regulation, policy) directly to executable form. This breaks the standard requirements bottleneck, where teams get stuck in "analysis paralysis" trying to define a data model from thousands of pages of policy and then to express policy rules in technical or code formats.
- Ability for policy experts to work directly on rules, using familiar tools (Word, Excel) in natural language.
- Ability to see clearly and at-a-glance that the rules implemented in the system match the policy. Oracle Policy Automation achieves this by retaining the same language and structure throughout the rule lifecycle.
- Ability to simulate future policy changes, to see the impact on the citizen base, and to very rapidly implement changes, as required by the provincial government.
• Ability to process against multiple versions of rules, e.g. retaining rules for multiple years, and also multiple versions of customer circumstances, e.g. when incomes and family structures change, and to do this without requiring custom code to aggregate the results from each version of the rules and circumstances.

• Ability to write the rules once and deploy them many times, e.g. same rules in standalone web self-service and positioned as an enterprise service that can be called by Siebel, PeopleSoft/EBS, legacy etc.

For example, business rules that guide decisions around benefit claims and outcomes should be managed in standard end-user tools and efficiently deployed as services that are linked into the standard business process for benefit claim determination.

Examples of key business services that incorporate user-defined rules processing include:

• Monetary and Non-monetary determinations
• Weekly claimant certification
• Over/Under calculation
• Claimant issues and adjudication
• Benefit program eligibility
• Employer initial liability rate determinations
• Employer payment processing and allocation rules
• Employer annual merit ranking
• Employer quarterly wage report validation and processing

Standards-based BPEL and SOA technology are used to compose individual services into an agency designed business processes. These business processes are automatically measured and monitored using business process management hooks to ensure that business objectives are being met.

Integration – Third Party Integration Services

The system should extend BPEL and SOA technology capabilities to 3rd party partner interfaces. This allows the maximum flexibility and consistency in managing both inbound and outbound interfaces to these partners.

Each interface is managed as a service in the Service Oriented Architecture that underlies the solution, thus blending into a common business process management framework.

The services offered at the interface span the range of real-time web services, to service managed asynchronous and batch interfaces.
Examples of key third party integration services include:

- Integration with the Internal Revenue Service (IRS)
- 3rd Party Collection Agencies
- Other government agencies
- Banks and other financial institutions
- Employer representatives – third party organizations
- Department of Labor
- ICON – Interstate Connection Network
- Homeland Security

Integration – Technical Services

The system should provide technical service integration features to enable rapid configuration of business services that support the business operations of the agency.

Examples of technical services integration requirements include:

- Call center and telephony integration (CTI)
- Web portal and self-service integration
- Legacy system service interfaces and integration
- Interactive Voice Response (IVR) and Fax services integration
- Field audit and disconnected user case management support
- Web services for electronic filing
- Document scanning and intake mechanisms (including File Transfer Protocol (FTP) and lockbox data sources)
- Correspondence and notification fulfillment services
- Address validation
- Report generation services
- Security infrastructure services
  - Identity management, including Lightweight Directory Access Protocol (LDAP) integration
  - Access control
  - Authorization control
  - Data encryption – including data element encryption
• System audit trails at the user level
• Availability infrastructure services
• Systems management
• Exception and error management and logging
• Configuration management

What are the Primary Application Features for a COTS Implementation?

The proposed application software must be an upgradeable, supported software product with the following characteristics:

• The product must provide generalized integrated system functionality and not contain forms, business rules, configurations, or processes that are unique to a previous customer. In particular, no modifications to the common baseline that are not supported across all customers may be included.

• The product must come delivered with full technical documentation.

• The source code must be maintained through a single organization not devoted to or affiliated with any particular customer.

• The product must be highly configurable so as to support significant customization without modification to the baseline source code. Configurable functions include, but are not limited to, returns processing, form setup and related business rules.

• The product must be upgradeable via a program of regular new releases to provide in the future both functional enhancements and keep the solution current with new versions of operating systems and database management systems and any third party products that are required for operation or maintenance.

• The product must allow for additional programs/modules to be added on a site-specific basis without changing baseline source code and in a manner that does not prevent or unduly complicate the upgrade path. The ability to add such site-specific code must allow for the following:
  • The addition of business rules that could not be added through configuration;
  • Custom reports
  • Interfaces
  • The creation of new user transactions and batch processes that leverage existing business rules and system capabilities
How to Determine Whether the System Integration Vendor is Qualified

In order for the implementation of the UI system to meet with a lower risk of failure, the vendor has to have experience implementing Commercial-Off-The-Shelf (COTS) solutions in a complex public sector organization.

Conclusion

While many large-scale UI system modernization efforts have been less than fully successful, there are ways for state agency administrators to lower risks and increase the likelihood of success for their projects. The combination of a configurable and agile solution combined with the certainty and reliability of a proven technology will lower the overall risk profile of a project. This combination will provide the flexibility of a custom solution while providing the predictability of a commercial-off-the-shelf (COTS) framework. Furthermore, this combination will allow the state agency to enjoy accelerated knowledge transfer, lifetime support, continuous product improvement, and an end-to-end solution.