An Oracle Solution Brief
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Increasing Efficiency and Responsiveness

*BPM in the Public Sector*
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Introduction: Improving Efficiency and Responsiveness for Citizens

Today’s public sector organizations continually strive to be more efficient, to modernize their operations, and to offer more consistent, personalized services to citizens. Achieving these goals is often difficult in the wake of pervasive budget cuts. Many government agencies have to adjust to an economic climate where revenue is curtailed, forcing them to simplify manual processes and find ways to do more with less. Two common ways to deal with budget cuts are to eliminate services and reduce head count. While these tactics can free up funds, they can also cripple an organization if lost employee knowledge isn’t preserved in some form. Forward-looking organizations in this sector have embarked on modernization projects designed to capture knowledge in information systems and to reduce manual effort by automating business processes.

While public organizations depend on software applications to meet their service-delivery objectives, today’s ambitious agendas require innovative technology that extends beyond the most comprehensive packaged or custom-built business applications. Many organizations are immersed in modernization projects to improve legacy systems and achieve greater business agility. Business Process Management (BPM) technology enables organizations to be more efficient, more effective and more capable of change. It can make services and programs less expensive, enabling organizations to become more efficient, to meet business challenges rapidly and flexibly, and to improve the citizen experience by resolving incidents and responding to requests in a timely fashion.

BPM improves all types of organizational activities, from structuring simple business processes like travel approvals to automating more complex business processes that require domain expertise such as incident reporting. These processes are generally not confined to one set of data or one discrete information system. They are better described as multifaceted implementations of real-world activities—logically organized into steps that span multiple IT systems, departments, channels, and touch-points. Some activities are automated and performed by machines; others are manual and performed by people, both inside and outside of the company.

To create new business processes that preserve organizational knowledge and accommodate these complex, multi-faceted implementations, astute organizations rely on Oracle Business Process Management (BPM) Suite. This solution brief explains how essential business processes such as Incident Reporting, Case Management, Integrated Justice, and Tax & Revenue Management can be improved with Oracle BPM technology.
Use Case #1: Modernization and Standards Compliance

While the factors that motivate public sector organizations to embark on new technology projects are extremely varied, at their root many of them are driven by the need to modernize aging legacy systems and the requirement to comply with government regulations such as National Information Exchange Model (NIEM), a community-driven, government-wide, standards-based approach to exchanging information. Originally created to facilitate interoperable information exchange between jurisdictions, NIEM has grown to solve a range of information-sharing challenges across a variety of government agencies. It also enables jurisdictions to efficiently share critical information at key decision points throughout the justice, public safety, emergency and disaster management, intelligence, and homeland security enterprise.

For example, San Joaquin County, a California jurisdiction located just east of the San Francisco Bay Area with county with approximately 650,000 residents relies on BPM technology in conjunction with NIEM standards to increase operational efficiency and improve the service it delivers to citizens. For the last several years this county has leveraged BPM as part of a modernization project designed to eliminate redundancy, consolidate IT functions, decrease costs and improve overall system performance. The county’s focus is to utilize NIEM standards to improve collaboration with state and national law enforcement and to enhance public safety for the county’s residents. IT pros have developed several key business processes during this period:

- Online Citation Inquiry and Payment System
- Integrated Justice Information System
- District Attorney Case Management System
- JCAD (Application for Mobile Police Units)
- Online Assessment System
- Adult Probation Case Management System

These business processes deal with an immense volume of data. For example, the county’s integrated justice system utilizes Web-based technology to link over 650,000 residents, 6,600 users internal users, 18 agencies countywide and other law enforcement systems nationwide. Previously these processes were integrated in a point-to-point fashion using tightly coupled interfaces, complicating reporting and making it difficult to complete basic workflows or exchange critical information. These brittle processes were unsustainable from both a cost and risk perspective. Today, thanks to astute use of BPM technology, the county has achieved better agility, re-use, and scalability.

For example, the county’s Adult Probation Case Management System provides data for over 15,000 active probationers with details of 400,000 court cases. Probation officers who must perform 15 to 20 assessments per day have been able to dramatically reduce paperwork by leveraging online, interconnected processes, evaluating risk in minutes rather than hours with the former manual process.

In addition, new BPM-enabled workflows that link Booking, Warrants, and Courts systems with the District Attorney system simplify the daily processing of about 200 bookings, 70 to 100 complaints, and 100 court calendar entries. Automated processes now accurately route the details of court minute orders, arrest charges, personal information and conditions. Built in audit
capabilities allow the county to record and review multi-step workflows, so they can make sure all citizens receive prompt treatment, and no request goes unresolved.

The county developed a BPM application that manages all the steps in a workflow for scheduling a current or future contact, recording data when the contact occurs, completing documents using the data entered, and setting up calendar reminders for follow up. The data collected then is used to produce statistical reports and court documents. Many formerly unrelated manual tasks are now part of a seamless and efficient process.

As IT leaders at San Joaquin County learned, there are no complete, packaged software solutions that encompass these multi-faceted administrative process. Thus it is imperative that public sector organizations can bring the disparate components of these solutions together in a consistent way that doesn’t constrain flexibility. The county used Oracle BPM Suite to standardize and streamline system integration projects and minimize risk. This software suite removes complexity from process design, development, deployment, monitoring, and execution with a unified process engine and pre-integration of process subsystems. This is especially important when developing applications that extend outside of application boundaries since it can assist with structuring a workflow, routing a request to an alternate channel, or triggering a sub-process to engage an agent or caseworker.

Using Oracle BPM Suite, organizations can also integrate new business models with legacy systems, ensuring consistent use of master data for key data elements. In this instance, IT pros had to create interfaces among mainframe, Oracle and .NET systems to transfer highly sensitive data among 13 interfaces to a combination of Oracle and SQL Server databases.

Use Case #2: Incident Reporting

Modernization refers to the ongoing quest to update outdated information systems, especially reducing redundancy and consolidating similar functions to decrease costs and improve performance. Many modernization projects entail integration of information across multiple mediums to facilitate interaction, both internally and with citizens. BPM technology is a popular way to create efficient business processes that simplify complex tasks, improve the flow of information, and streamline reporting and compliance.

This capability is implemented in a BPM workflow for Incident Reporting, a common task at many public safety agencies. To understand how this workflow helps to automate a complex set of inter-related tasks, consider the following scenario:

- A couch flies out of a pickup truck and lands in the middle of a freeway.
- A citizen driving by places a 311 call to report the incident. A few seconds later, another citizen sends a text message from an iPhone, also reporting the incident.
- A reporter at the highway patrol station creates an incident report, quickly completing all required fields pertaining to the incident and submitting a record to the Incident Reporting System.
- An action officer is continually logged in to this system to review incident reports. He assesses the situation and deploys two patrol officers and a CalTrans truck to the scene, then turns it over to a case worker to monitor and escalate as necessary.
• The caseworker monitors the situation over the next 30 minutes to confirm that the highway patrol has arrived, temporarily blocked traffic from one lane, and moved the sofa to the shoulder.

• The case manager approves the incident report and extracts it to a NIEM-compliant document.

• CalTrans reports that the sofa has been picked up and removed from the scene. Highway Patrol logs that the situation is resolved. Traffic is flowing smoothly.

• Later that day the case manager extracts the incident report to a NIEM model for sharing with other agencies. As yet, no accidents have been reported and no driver has been identified at fault.

• All of these incidents, reports, and resolutions are linked for follow up, quality control, and eventual auditing and regulatory reporting.

Process Accelerators

BPM technology assists public sector organizations at each critical juncture of workflow application development including during program design, technology rollout, system configuration, citizen accountability, maintenance, reporting and auditing. The technology is even more powerful when used with a process accelerator such as Oracle Process Accelerator for Incident Reporting, a pre-built business process based on Oracle BPM that enables organizations to resolve business challenges rapidly and flexibly, and ultimately to improve citizen satisfaction by fulfilling their requests in a timely fashion. By using Oracle Process Accelerators rather than starting from scratch, customers can avail themselves of mature and proven incident reporting capabilities.

Process Accelerators

For example, Oracle Public Sector Incident Reporting (PSIR) Process Accelerator enables public sector organizations to automate interactions among citizens, action officers, caseworkers, and case managers, facilitating a closed-loop interchange of information as part of an actionable, auditable framework. This progression is shown below.
Use Case #3: Tax and Revenue Management

State and municipal governments are under increasing pressure to increase tax revenues without raising tax rates. Additionally, they must provide a higher level of service with fewer resources. Tax and revenue collecting entities are required to meet business requirements, increase collections, and provide a higher level of customer service with fewer resources. Yet it is difficult to maintain systems that do not meet current business requirements. The biggest challenge isn’t just managing revenue, but managing information. Stymied by legacy accounting and billing systems, many agencies have a difficult time capturing, reporting and analyzing taxpayer data—let alone making revenue projections.

Many states have implemented packaged revenue management systems to replace their legacy tax management systems. A large portion of the budget in these projects is devoted to automating the underlying business processes. With disparate information arising from multiple systems, it is hard to obtain all the details about an individual taxpayer. Citizens can pay online, in person, or via mail utilizing multiple payment instruments. BPM software streamlines the flow of information among new and old systems while also delivering insight into which taxpayers are filing and which ones aren’t. By combining disparate information and streamlining case-management workflows, BPM helps organizations develop a “Single View of the Taxpayer” across all tax and revenue sources.

Taxpayers can access their individual tax accounts online, pay taxes electronically, and provide access to useful tax information, reducing the need for staff intervention to address many taxpayer concerns. Automating business processes simplifies operations, delivers faster access to taxpayer information, and enables citizens to interact with collection authorities via automated solution components. The key capabilities and benefits of a “Single View of the Taxpayer” workflow are shown below.
Addressing Fraud and Compliance

Tax and revenue departments must also address ever changing regulatory and tax law changes, and educate taxpayers about the impact of these changes. By creating automated workflows, BPM tools enable caseworkers to respond to taxpayer inquiries quickly and knowledgeably based on current information. Tax authorities gain greater visibility across revenue collecting activities and are better able to combat fraud and meet compliance mandates. Armed with complete information, civic leaders can estimate the impact of new taxes and fees and analyze the efficacy of new legislation as well as simplify debt disbursement management.

By connecting fundamental business processes, tax authorities are able to provide accurate and clear representations of audit selection data and instigate predictive analytics to automatically identify taxpayer payment and filing irregularities. Integrating advanced data analytics can improve audit selection results and maximize revenue recovery efforts as well.

Applying Oracle BPM Suite

Public sector organizations commonly use Oracle BPM Suite to model, simulate, execute, and optimize, business processes across agencies, systems, and applications. The suite includes the technology these organizations need to create, document, and modify business processes quickly and drive process changes in a nontechnical, business-friendly manner, along with technology for implementing, executing, and monitoring end-to-end processes.

Oracle’s comprehensive BPM technology enables complete introspection into business processes so analysts can predict, architect, and enable interactions through multiple channels and touch-points. They can model processes by defining the logical structure and sequence of
events, rather than its underlying technical implementation—without any knowledge of service oriented architecture (SOA), Web services, or XML.

Oracle developed, a unified process foundation simplifies and removes complexity from process development, deployment, monitoring, and execution. In addition, Social BPM interaction simplifies collaboration among people and applications by incorporating the latest in social computing technologies and enabling a wide choice of communications channels, as shown below.

Finally, Oracle’s unique BPM toolset enables utilities to lower the risk of process “gaps” within common business processes including case management, incident reporting, and many aspects of today’s new health information exchanges. Over time, the toolset enables developers to shift their focus from managing individual functions to integrating activities into interconnected processes. In addition, it helps public sector agencies to share information and optimize visibility as stakeholders create, manage, and audit new types of end-to-end business processes.

Integration with SOA

SOA has become a popular method for linking legacy applications across many different departments, thereby creating a single end-to-end process and improving efficiency. SOA interoperates with all parts of the IT architecture to integrate business applications, moving them on to a common service bus and a common workflow engine. It brings reusability to the IT infrastructure, but how can you leverage this IT infrastructure efficiently while accommodating human intervention and introspection at key junctures within the business process?

This is where BPM technology comes in. It is the vehicle that business analysts use to optimize a process, improve visibility, check statistics, perform activity monitoring, combine elements of social collaboration, and a host of other tasks.

Oracle BPM Studio works with Oracle SOA Suite to create end-to-end business processes that can be triggered, executed, and monitored from browser-based Web interfaces. Another browser-based application, called BPM Composer, offers insight into BPM process definitions and enables business analysts to document and edit these definitions online.
Analyzing and modeling business processes with these Oracle tools can lead to a seamless implementation of process activities through services and human tasks. Execution of process instances is centrally coordinated and monitored—allowing for real-time insight into exceptions and bottlenecks as well as on-the-fly intervention and improvements within the process flow. The combination of Oracle Business Process Management Suite 11g and Oracle SOA Suite 11g provides everything public sector organizations need to implement, execute, and monitor end-to-end business processes as well as individual sub-processes and tasks. As part of the Oracle Fusion Middleware family, these products are based on industry standards and provide “design time at runtime” support to allow for dynamic, business-driven, on-the-fly reconfiguration and restructuring of business processes.

Conclusion

The public sector needs flexible tools for creating, deploying, and managing complex business processes and related information systems. Oracle BPM Suite and related tools in the Oracle Fusion Middleware family help these organizations to transform their fundamental processes:

- A unified process foundation reduces complexity while pre-integration of process subsystems brings together existing applications, enabling you to react quickly to new business requirements.
- A user-centric design simplifies process modeling, execution, and participant interaction among citizens and government employees, and provides tools for both business and IT.
- Social BPM interaction encourages collaboration in the context of BPM and adds the richness of modern social communication tools to reach out to and stay in touch with the community.
BPM Technology for the Public Sector

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Hardware and Software, Engineered to Work Together