

ZAPTHINK ZAPNOTE™

ONLINE BUSINESS SYSTEMS SOA FOR JUSTICE & PUBLIC SAFETY

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Abstract

Online Business Systems (Online) is a midsize professional services firm that has built a business for over twenty years by focusing on aligning business needs with integration-centric IT solutions. Now, they are leveraging Service-Oriented Architecture (SOA) best practices as well to add a new level of agility to their integration offering for many different industries.

In particular, Online has been able to leverage SOA best practices within their Integrated Justice & Public Safety practice, which serves public responders, courts, and other parts of the justice system. These clients have particularly stringent integration requirements, due to the dynamic nature of law enforcement, the requirement for high levels of security and confidentiality, and the diverse, heterogeneous set of agencies who must work together. Online's SOA capabilities, combined with their integration skills and business focus have enabled them to build many successful implementations in the justice and public safety arena.

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Combining SOA and BPM

As ZapThink's research frequently espouses, Service-Oriented Architecture (SOA) represents an architectural approach to the ongoing challenges information technology (IT) faces as it meets the changing needs of business, consisting of best practices as well as the discipline to follow them. In other words, SOA is something organizations *do*, not tools or technology they *buy*. In spite of the plethora of software vendors that have jumped upon the SOA bandwagon in the last five years, claiming that the best way to do SOA is to buy their product, more and more organizations are realizing that SOA implementations aren't about buying new products. Rather, they are about leveraging a range of best practices to reorganize the IT department and how the business leverages IT.

Where, then, do organizations find those best practices? In many cases, they turn to professional services organizations that focus on building teams that have the expertise and knowledge necessary to provide the SOA best practices that companies and government agencies lack. While you can't get SOA from a software product, it is possible to acquire the skills, practices, and methods for realizing the benefits of SOA from the right consulting firm.

Online Business Systems (Online) is a midsize professional services firm with seven offices across Canada and the US. They have been offering a combination of business and technology consulting for more than twenty years, including business process management, application development, business intelligence, enterprise integration, and customer experience management solutions. Online specializes in transforming complex business processes and vast amounts of data into strategic intelligence for their clients. Their clients are primarily in the energy, healthcare, and justice and public safety sectors.

The core of Online's approach is their *Rapid Online Application Development (ROAD)* Methodology for the delivery of software development projects. ROAD provides a flexible framework for managing a wide range of software projects, and it contains many elements of different software development techniques, including structured analysis and design, use case modeling, object modeling, rapid application development, joint application development, and many other best practices.

Online's Service Oriented Architecture (SOA) methodology is part of their ROAD family of IT methodologies. Based on Online's experience in Enterprise Application Integration in complex, multi-platform environments, their SOA approach leverages both business understanding and IT architecture in conjunction with their business process management capabilities. By leveraging incremental, iterative approaches, this approach to SOA provides a low risk, phased approach for implementing SOA-based solutions. It's important to note, however, that Online doesn't have a "SOA team" *per se*. Instead, they have a SOA and integration practice with leaders who drive the best practices and deliverables for the organization.

Online is essentially a vendor neutral consulting firm, with skills in a variety of integration technologies, including the Sonic Software ESB and Microsoft BizTalk. Much of their SOA

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work, in fact, does center on ESB implementations. They look to ESBs for several benefits, including:

- XML transformation capabilities
- Management of security policies
- A variety of transport layers for service exposure and message exchanges in an asynchronous environment
- Version control
- Fault tolerance and continuous availability of Services
- Guaranteed message delivery and other reliable messaging capabilities

In spite of their ESB-centric SOA offering, Online has found that the emergence of SOA has strengthened their consulting offerings overall. They have always advised their clients that the best approach for designing and building a solution is to avoid the “siloeed” project approach in which IT considers, implements, budgets, and manages each project without full consideration of other imperatives. Instead, Online leverages SOA best practices in the context of Enterprise Architecture as a means to solve overall business-IT issues and to address the ability for IT to deliver long-term value to the rest of the business.

Service-Oriented Approaches for Justice and Public Safety

One of Online’s most successful practices is their Integrated Justice and Public Safety (J&PS) offering, based in their Portland, Oregon office. Online works with their clients in the public safety arena across the judicial process, including police, corrections, courts, and law agencies at the municipal, county, and state level. This practice realizes that the challenge to any Integrated Justice solution is often more legal than technical.

Each individual agency and department owns its own data, and is responsible for protecting it. Frequently, restrictions prevent the caching information outside the boundaries of the source agency, preventing the use of centralized data warehouses or related data integration and consolidation approaches. The solution to integrating agencies with this stringent limitation on data caching requires a federated model. For example, a federated query approach provides users a single point of access to multiple distributed data sources, as opposed to multiple manual searches, multiple logons or brittle, point-to-point integrations. In such a federated model, it’s not necessary to apply a single unified or centralized strategy to all participating agencies.

Yet, while federation is the right approach to avoiding these hurdles, establishing the appropriate governance framework is also essential. Online is only now seeing an increased interest in governance among their clients. Some of the governance issues their clients are now dealing with involve agency interoperability and information sharing issues. Online provides their clients with the tools that governing organizations require to establish and enforce the rules of a common information sharing network.

In order to effectively manage the overhead that results from the interdependencies among such agencies requires the loose coupling benefits that SOA can offer. However, while Online leverages SOA best practices for their J&PS clients, their prospects are not asking for SOA as a rule. Instead, they are asking for interagency system integration. Furthermore, data come from several levels: town, county, state, and federal, and their clients’ environments are in a constant state of flux. As a result, loose coupling is a necessary capability for addressing their clients’ immediate pain points.

Full Lifecycle SOA Capabilities

Online Business Systems offers full lifecycle, “cradle to grave” service for their clients. They work with clients before they issue requests for proposal (RFPs), up through architecture, integration, and maintenance. Agencies are essentially leveraging Online’s management consulting capabilities for pre-RFP planning. Online then helps their clients with 5-7 year architectural plans, which incorporate SOA planning with broader enterprise IT planning.

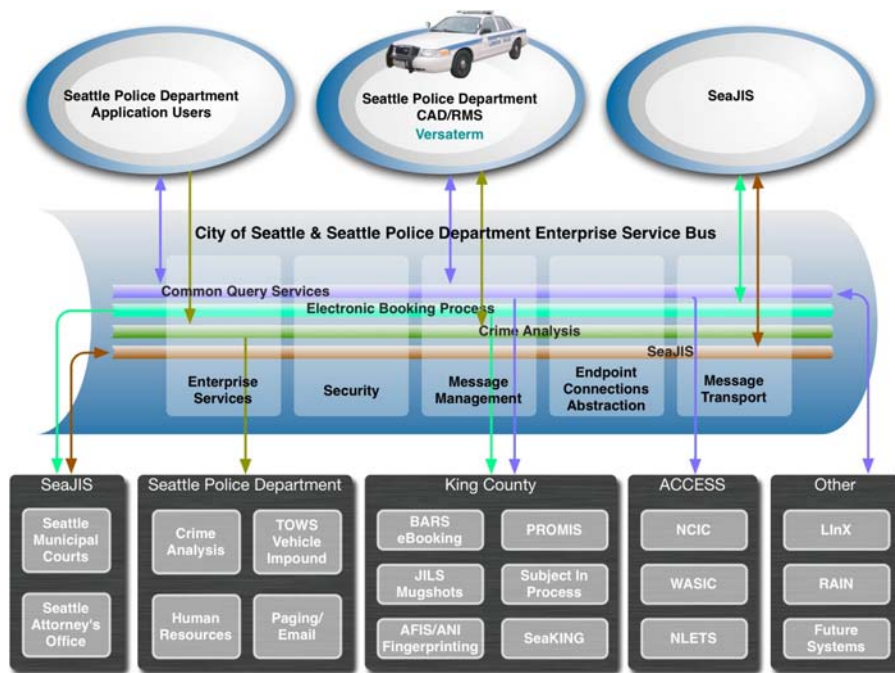
While traditional RFPs are appropriate for pilot projects, they are not particularly suitable for full lifecycle SOA engagements. Nevertheless, it’s not possible to rely entirely on SOA pilots. Such pilots tend to be expensive and difficult, since they do not simply consist of integration: they also include governance and security capabilities, as well as the allowance for future iterations. In fact, the SOA pilots Online often executes are working implementations that are essentially in their early stages.

Justice & Public Safety Client examples

The *Portland Dispatch Center Consortium* (PDCC) is an association of 911 public safety answering points serving the Portland, Oregon and Vancouver, Washington metropolitan area. The PDCC and Online teamed together to re-engineer the region’s 911 services to better support homeland security and urban area security initiatives. Online based their work on the vision of unifying public safety communications and dispatch center operations by coordinating efforts and reliably sharing information among the PDCC membership.

Online leveraged ESB technology and Web Services capabilities to establish a scalable, secure, and reliable technology foundation for information sharing and data integration across the PDCC membership’s computer-aided dispatch (CAD) systems. Then, they blueprinted a SOA solution that specified a loosely coupled environment that will allow for evolving standards and changes to participating CAD systems and other technology infrastructure.

Seattle Police Department SPIDER Architecture



Source: Online Business Systems

The *Seattle Police Department (SPD)* called upon Online to implement an integration solution capable of supporting municipal, county, state, and federal level information-sharing initiatives. Online is working collaboratively with the SPD to implement SOA in order to pull together the capabilities of several integrated applications, including CAD, Mobile CAD, a Records Management System, and Automated Field Reporting. This new SOA implementation, known as SPIDER and shown in the figure above, enables the SPD to replace the existing interfaces of its current legacy system with an interoperable, scalable, extensible, and reliable information exchange and message brokering capability.

Online is basing SPIDER on a SOA-guided ESB that provides the SPD with a high availability, fault tolerant, standards-based messaging architecture. Such a SOA implementation enables SPD to not only exchange data, but to create a framework for reusable message exchanges with centrally hosted business rules and enterprise Services.

The *State of Washington Justice Information Network (JIN)* supports the justice process in Washington, which involves federal, state and local entities, including law enforcement officers, courts, prosecutors, and corrections. These various agencies employ a variety of mainframe and server-based applications, and JIN enables the various constituents of these agencies to share information. JIN selected Online to assist in the definition and development of a JIN data exchange, which they based on Microsoft BizTalk. Online also implemented a Web Services-based suite of integration Services to provide possible criminal history matches by ID and criminal and case history record information.

Online Business Systems Integrated Justice & Public Safety Practice

Overview:

Online's Integrated Justice & Public Safety Practice works with clients in the public safety arena across the judicial process, including police, corrections, courts, and law agencies at the municipal, county, and state level. This practice leverages SOA best practices and ESB technologies to integrate diverse agencies in order to provide better access to information in a secure environment.

Capabilities:

Online's J&PS offering delivers the following capabilities:

- Through standards-based technologies and SOA best practices, Online enables agency interoperability and cross-jurisdictional lifesaving information to public safety providers.
- Online facilitates computer-aided dispatch (CAD) interoperability by connecting disparate CAD systems via standards-based information exchanges, and integrating them with 911 emergency systems and associated personnel and equipment.
- Online also provides criminal justice practitioners with complete, timely and accurate information.

Value Propositions:

- Flexible, rapid access to geographically dispersed information.
- High levels of security and confidentiality in an environment that prohibits data caching.
- Agility in the face of ongoing technology, legal, and regulatory changes.

The ZapThink Take

The current state of SOA consulting is a study in seeming contradictions: even though enterprises aren't buying SOA, there's more SOA going on in the enterprise than ever before. Consulting firms are realizing that SOA solutions should focus on business problems, but business executives generally relegate SOA to IT. As architecture, SOA is about best practices and discipline, but many firms put products and technology first in their SOA engagements.

The big picture surrounding these contradictions, however, is one of a maturing marketplace. The business value proposition for SOA is finally crystallizing, as the rise of SOA-related management consulting and an increased focus on governance illustrate. Furthermore, a broad range of vertical industries are implementing SOA, not just the early adopter industries. But perhaps the most telling indicator that SOA is maturing is that SOA best practices are becoming increasingly taken for granted. True, there remains plenty of confusion, but far less than only one year ago. For the firms who are clear on SOA techniques, such practices have found their way into everything they do.

Online Business Systems' Integrated Justice and Public Safety practice is a case in point. Their clients are coming to Online with complex integration requirements, and Online is responding with SOA-based solutions, even though the RFPs these clients are presenting do not typically mention SOA. Furthermore, Online has been able to leverage ESB technologies without letting the ESB vendors drive the SOA initiatives. By letting the business need drive the architecture, and the architecture drive the technology, Online is enabling their clients to satisfy their requirements for agility, robustness, and security in a cost-effective, scalable manner.

Profile: Online Business Systems		April 2007
Funding:	Privately held, self-funded	
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Related Research

- *SOA Consulting Expert Roundtable* ZapForum Podcast (ZTP-0248)
- *SOA Consulting: Current Market Trends* Foundation Report (ZTR-WS113)
- *Accenture* ZapNote (ZTZN-1155)
- *Adea Solutions* ZapNote (ZTZN-1173)
- *EDS* ZapNote (ZTZN-1154)
- *Infosys* ZapNote (ZTZN-1162)
- *MW2 Consulting* ZapNote (ZTZN-1175)
- *Patni* ZapNote (ZTZN-1184)
- *ThoughtWorks* ZapNote (ZTZN-1170)
- *Tier1 Innovation* ZapNote (ZTZN-1169)
- *Wipro* ZapNote (ZTZN-1168)



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ZapThink is an IT advisory and analysis firm that provides trusted advice and critical insight into the architectural and organizational changes brought about by the movement to XML, Web Services, and Service Orientation. We provide our three target audiences of IT vendors, service providers and end-users a clear roadmap for standards-based, loosely coupled distributed computing – a vision of IT meeting the needs of the agile business.

ZapThink helps its customers in three ways: by helping companies understand IT products and services in the context of Service-Oriented Architecture (SOA) and the vision of Service Orientation, by providing guidance into emerging best practices for Web Services and SOA adoption, and by bringing together all our audiences into a network that provides business value and expertise to each member of the network.

ZapThink provides market intelligence to IT vendors and professional services firms that offer XML and Web Services-based products and services in order to help them understand their competitive landscape, plan their product roadmaps, and communicate their value proposition to their customers within the context of Service Orientation.

ZapThink provides guidance and expertise to professional services firms to help them grow and innovate their services as well as promote their capabilities to end-users and vendors looking to grow their businesses.

ZapThink also provides implementation intelligence to IT users who are seeking guidance and clarity into the best practices for planning and implementing SOA, including how to assemble the available products and services into a coherent plan.

ZapThink's senior analysts are widely regarded as the "go to analysts" for XML, Web Services, and SOA by vendors, end-users, and the press. Respected for their candid, insightful opinions, they are in great demand as speakers, and have presented at conferences and industry events around the world. They are among the most quoted industry analysts in the IT industry, and their recent book, *Service Orient or Be Doomed!*, is the leading book on the business concept of Service Orientation.

ZapThink was founded in October 2000 and is headquartered in Baltimore, Maryland. Its customers include Global 1000 firms and government organizations, as well as many emerging businesses. Its analysts have worked at such firms as IDC, marchFIRST, and ChannelWave, and have sat on the working group committees for standards bodies such as RosettaNet, UDDI, and ebXML.

Call, email, or visit the ZapThink Web site to learn more about how ZapThink can help you to better understand how SOA will impact your business or organization.

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