



ENTERPRISE SERVICES ARCHITECTURE FOR THE PUBLIC SECTOR

The Foundation for Efficiency and Innovation

Public sector organizations around the world are seeking ways to improve constituent services, streamline operations, and control costs. To meet these challenges, you need a cost-effective way to leverage current IT resources to support improved processes. Enterprise services architecture (ESA), a business-driven software architecture pioneered by SAP, helps you increase the flexibility and reusability of your current systems to support new levels of performance and innovation.

All levels of government – federal, state, regional, and local – face the challenge of doing more with less while maintaining parity with commercial businesses. In an age of online shopping, omnipresent ATMs, and 24x7 customer service, constituents have come to expect streamlined, technology-powered services from the public sector. But no government wants to raise taxes to fund the process improvements necessary to provide these services. Your challenge is to leverage your existing assets to reduce complexity, drive innovation, and meet ever-rising public expectations.

The IT Challenge

Whether assigning a case worker to a family in need or managing a national tax system, governments rely on IT to support processes, enhance service, and control costs. But despite having made substantial technology investments, most governments have a variety of incompatible, isolated solutions in place. These applications typically do a good job of supporting dedicated processes – such as recording vehicle transfers, accessing zoning records, or calculating taxes – but it's difficult and expensive to link them together to support new functionality or to provide a unified view of information that resides in disparate locations. Not only does this incompatibility limit the potential for collaboration between departments, agencies, and branches of government, it can also result in considerable inefficiency – leading to long lines, cumbersome forms, unanswered phone calls, and frustrated constituents.

Enterprise Services Architecture

Enterprise services architecture (ESA) is a business-driven software architecture pioneered by SAP that provides increased adaptability, flexibility, openness, and cost-efficiency. It helps governments leverage existing IT assets to improve constituent

service and manage costs. ESA serves as both vision and road map, enabling federal, state, regional, and local governments to compose cross-departmental and cross-agency software solutions based on existing applications and components.

Much of ESA's power begins with a basic, yet powerful entity: the Web service. Simply put, a Web service is a self-contained package of functionality – an independent piece of software that does something useful. Because they are based on open standards, Web services are neutral by nature; they do not require a particular vendor, language, or technology. A Web service will – upon receiving a query or request – perform an action and respond with a result. For governments, a Web service could be a single command to issue a driver's license, verify a service entitlement, or process a building permit.

The underlying technology framework that makes Web services valuable in an IT landscape is known as service-oriented architecture. Service-oriented architecture is useful for composing individual software applications that use Web services, and for stringing these applications together to support basic processes. What's lacking, however, is a means of aggregating many low-level Web services into enterprise services that are capable of supporting real business scenarios like filing tax return data or managing government procurement – activities that span a complete public sector organization and beyond. That's the role played by ESA.

Putting ESA to Work

To understand how ESA can enhance business processes, let's take a closer look at how an ESA-enabled landscape supports the fulfillment of a request for service from a constituent to a government agency – the kind of inquiry that might come from someone seeking veterans' benefits, uncollected child support, or public assistance. The primary processes in this scenario typically include the initial inquiry, creating a request, verifying eligibility, processing the request, delivering the service, billing, accounting, and reporting the outcome to senior managers.

In many cases, the links between these processes depend on paper forms, faxes, telephone calls, data reentry, and spreadsheets. With this many handoffs, managing the end-to-end scenario tends to be inefficient, time-consuming, and error prone.

Many government IT departments have attempted to manage complex scenarios like this by deploying enterprise application integration solutions or by hard coding the links between currently deployed programs. This approach works up to a point, but it creates complex and costly IT landscapes that are very difficult to change later on. ESA provides a more flexible solution to the integration dilemma by allowing current and future business scenarios to be supported by composite applications – programs that utilize enterprise services to blend functionality from multiple applications, even if the applications use different databases, programming languages, or operating systems.

Returning to our request-for-service scenario, once the underlying applications are service enabled and linked by composite applications, information flows seamlessly across application, data, and system boundaries. All enterprise services are published in a central enterprise services repository so they can be used by anybody who needs them, including partners, customers, and other value-chain participants.

A change or exception entered at any point in the workflow is now reflected automatically at all other links in the chain. With relevant information at their fingertips, case workers become more productive, and managers can improve existing methods and procedures. For example, if administrators decide to link additional processes to the service delivery scenario – such as online registration, automatic renewal, periodic billing, or sharing outputs with external providers – applications supporting these processes can be integrated quickly by reusing existing enterprise services, without the need for elaborate and costly programming.

ESA Enhances Public Sector Processes

Here are a few other examples of how ESA enhances government processes.

An ESA-powered IT landscape can help program administrators build composite applications to manage all aspects of grants management – linking program managers and approval officers with supervisors, accountants, and other stakeholders. With a unified view of all interrelated activities – from initial application to final payment – you can interconnect and improve processes like planning, budgeting, monitoring, and reporting.

Using components of the SAP NetWeaver® platform, government administrators can build a citizen information hub, which serves as a cross-agency aggregation point for relevant data from all back-end systems – regardless of their complexity. Using standards-based output, the hub can span multiple agencies (social services, health, motor vehicles, tax and revenue, and so on) to give government workers new levels of insight and control while providing faster, more comprehensive service.

ESA can help integrate the complex processes and solutions currently used for tax and revenue management. Agents, officers, auditors, and supervisors are better able to share information, increase collection efficiency, and gain a single view of the taxpayer. Citizens benefit from speedier refunds, better service, and user-friendly processes.

SAP NetWeaver: The Foundation of ESA

The SAP NetWeaver platform provides the technical underpinnings for ESA. As an open integration and composition platform, SAP NetWeaver enables you to align IT assets with your organization's goals. It helps integrate applications, information, and people across heterogeneous systems while ensuring that mission-critical processes are reliable, secure, and scalable.

The Pain of the Public Sector

The following are common pain points for public sector organizations:

- High total cost of ownership
- Interfaces that require costly and constant maintenance
- Redundant data storage
- Highly specialized systems that depend on skilled users
- Lack of a consolidated view to aid decision makers
- Inability to integrate IT resources to drive innovation and collaboration

SAP NetWeaver also powers the SAP for Public Sector solution portfolio, the SAP® xApps™ family of composite applications, and SAP partner solutions and composite applications. Designed for interoperability with a wide range of operating systems, development languages, middleware, and business applications, it allows you to take full advantage of existing IT assets, integrating all systems running SAP or non-SAP software. SAP NetWeaver also helps improve process efficiency, providing a substantial level of integration, automation, and consolidation for key business activities like procurement, budgeting, and workforce management.

ESA Delivers Key Benefits for Public Sector

Many governments rely on diverse legacy and specialized third-party systems. Replacing or upgrading these solutions is problematic due to budget restraints and technical complexities. With an ESA-enabled IT landscape powered by SAP NetWeaver, you can reduce the need for costly system interfaces (which must be adjusted every time a linked solution is upgraded or altered).

With ESA, you can:

- **Leverage IT assets to improve flexibility and achieve organizational goals**
ESA enables you to envision and plan composite applications based on strategic or tactical goals – without having to reprogram or replace underlying IT assets to support the proposed initiatives. Thanks to predefined enterprise services that link to existing functionality, you can compose new applications using a model-driven approach.
- **Build innovative government processes**
ESA helps you deploy user-centric solutions that result in highly responsive, easy-to-use constituent services. With new applications that can be developed in-house, by SAP, by third-party providers, or a combination of all three, ESA allows you to support improved processes that deliver lower costs, better service, and greater efficiency.
- **Collaborate with internal and external partners**
ESA supports interoperability between departments, agencies, regulators, and suppliers while helping federal, state, and local governments achieve higher levels of integration and teamwork. This ultimately improves the quality of constituent services and lowers costs while allowing public administrations to retain visibility and control of critical processes.
- **Improve security and minimize risk**
In addition to making it easier to fulfill legal regulations and protect highly sensitive data, ESA enables you to separate the definition of interfaces and processes from the underlying applications. This decoupling results in faster implementations and more cost-effective upgrades, which you can deploy as needed. ESA supports incremental improvement – without the interruptions associated with big-bang implementations. This is especially important for the public sector, where even minor disruptions to IT support can result in higher costs and angry constituents.

Making a Difference

ESA combines the reliability and comprehensive functionality provided by SAP applications with the flexibility of services based on open standards. Powered by SAP NetWeaver, ESA enables the seamless integration of SAP, legacy, and third-party software into composite applications that enhance key processes. With ESA, SAP helps blend technology with business content, providing a business process platform that helps governments save time and money while transforming service for all constituents and stakeholders.

For More Information

To learn more about how ESA can help your government organization meet current and future challenges, please call your SAP representative or visit our Web site at www.sap.com/netweaver.

Powered by SAP NetWeaver

SAP for Public Sector is powered by the SAP NetWeaver platform. SAP NetWeaver unifies technology components into a single platform, allowing organizations to reduce IT complexity and obtain more business value from their IT investments. It provides the best way to integrate all systems running SAP or non-SAP software.

SAP NetWeaver also helps organizations align IT with their business. With SAP NetWeaver, organizations can compose and enhance business solutions rapidly using enterprise services. As the foundation for ESA, SAP NetWeaver allows organizations to evolve their current IT landscapes into a strategic environment that drives business change.