Government Service Bus

Although building a point-to-point link between a consumer and provider is direct, a large number of interfaces such as the situation in e-government of Jordan will lead to the buildup of a complex mass of links with multiple security and transaction models. When routing control is distributed throughout the infrastructure, there is typically no consistent approach to common services such as logging, monitoring, or systems management. This type of environment is difficult to manage or maintain and inhibits change.

To overcome such problems an GSB is introduced. The Government Service Bus (GSB) is emerging as a service-oriented infrastructure component that makes such e-government large-scale implementation of the SOA principles manageable in such a heterogeneous world.

An Government Service Bus (GSB) is a pattern of middleware and software infrastructure that enables Service Oriented Architecture (SOA) by acting as an intermediary layer of middleware through which a set of reusable Government Services are made widely available. It unifies and connects services, applications and resources within the government of Jordan and provides a framework within which the capabilities of business' applications are made available for reuse by other applications throughout the organization and beyond.

An GSB helps enterprises obtain the value of SOA by increasing connectivity, adding flexibility that speeds change, and providing greater control over use of the important resources it binds. Unlike many previous approaches for connecting distributed applications, for example RPC or distributed objects, the GSB pattern enables the connection of software running in parallel on different platforms, written in different programming languages and using different programming models.

Service consumers connect to the bus and not the service provider that actually implements the service. This type of connection further decouples the consumer from the provider and allows for loosely coupled integration as advocated by SOA. The GSB model is depicted in the following figure.

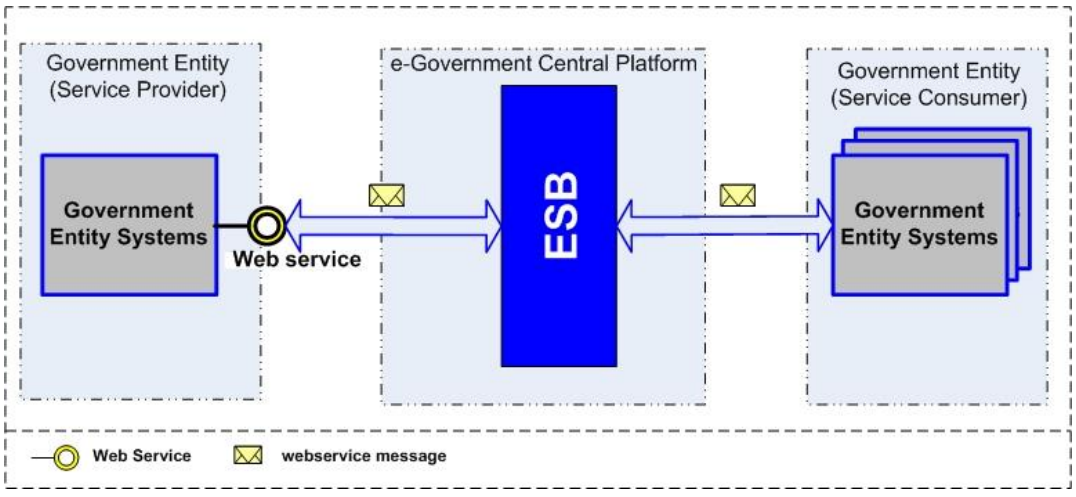

Figure 1 - SOA implementation using GSB

GSB implements other value-add capabilities such as delivery assurance and security. It is preferable to implement such capabilities centrally using the GSB rather than within the applications that are distributed over the entities. However, the primary driver for an GSB is that it encourages decoupling between service consumers and providers.

There are 3 alternatives for an application to exchange information with the GSB:

- Application-provided Web service interface: Some applications and legacy application vendors have adopted the open standards market needs and have included a Web services interface. The following figure depicts this alternative

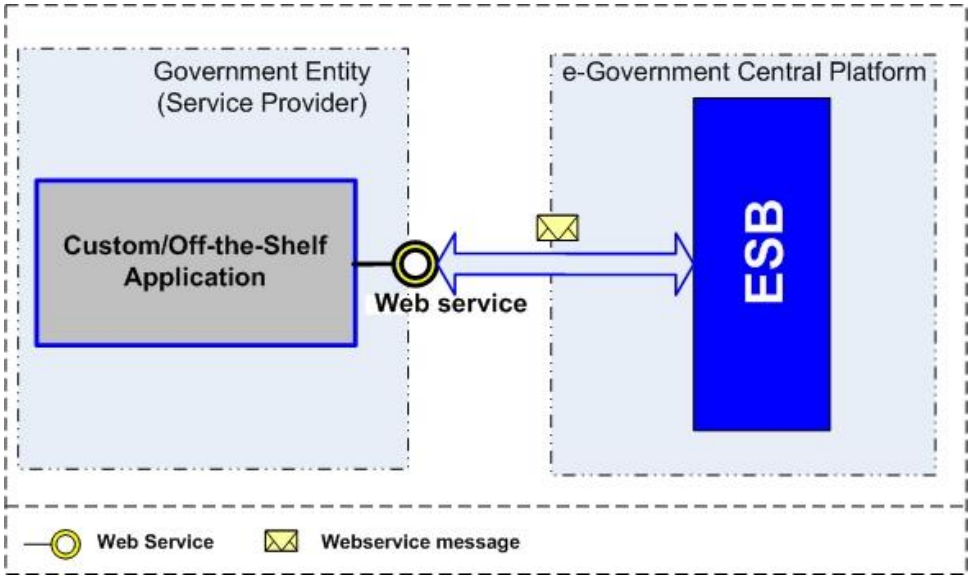

Figure 2 - Application-provided Web service interface

- Non-Web service interface: The application does not expose business logic via Web services. An application-specific adapter can be supplied to provide a basic intermediary between the application API and the GSB. The following figure depicts this alternative.

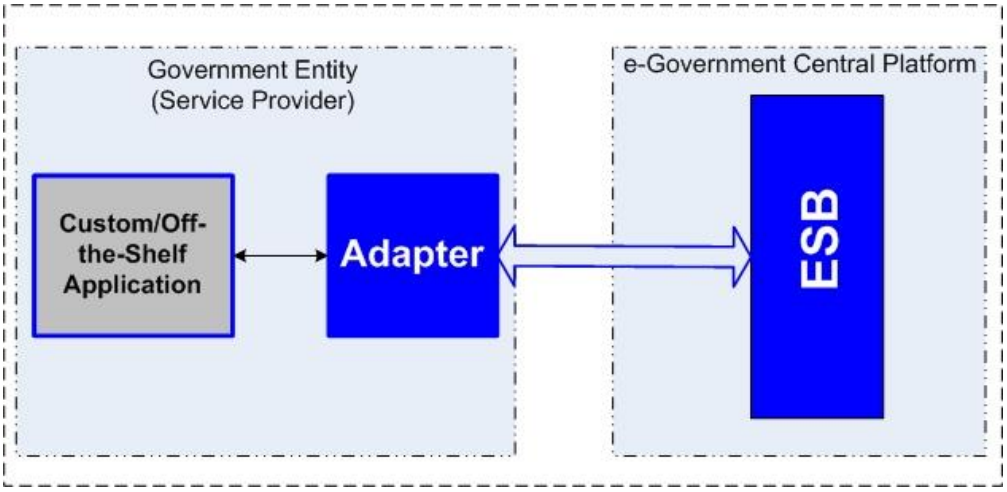

Figure 3 - Non-Web service adapter

- Service wrapper as interface to adapter: In some cases the adapter may not supply the correct protocol that the GSB expects. In this case, the adapter would be Web service enabled. The following figure depicts this alternative

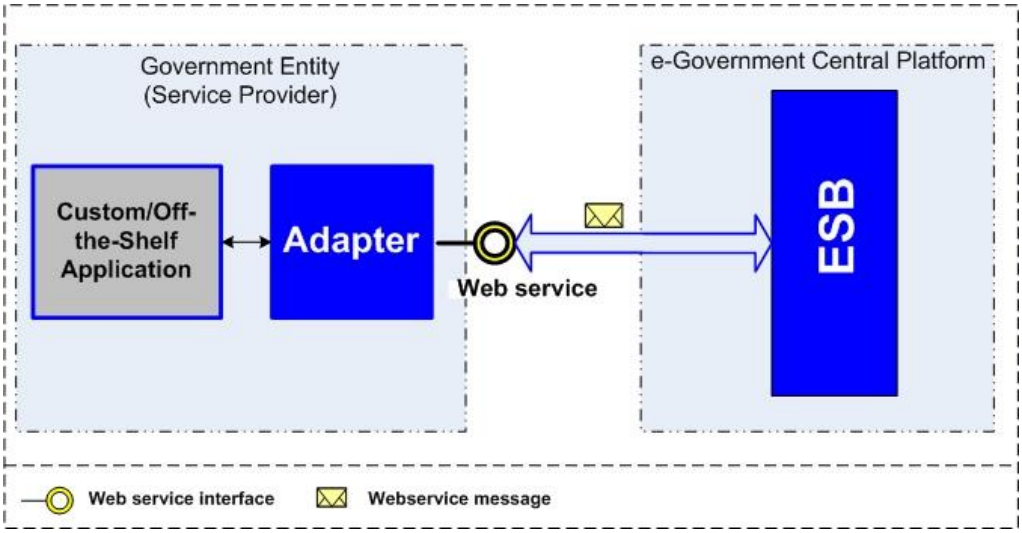

Figure 4 - Web service enabled adapte

All the above alternatives of are valid and can be used by government entities when connecting to the GSB.