



Comparing and Contrasting an Enterprise Service Bus with ActiveVOS

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ActiveVOS and ESBs

Many people ask us how the ActiveVOS BPMS (business process management system) compares to an Enterprise Service Bus (ESB). The brief answer is:

- An ESB is an ideal solution for routing messages between applications and services
- ActiveVOS is an ideal solution for orchestrating service and human activity into a business process application

Overview of an Enterprise Service Bus

An ESB's primary role is moving data using adapters (web services, FTP, file, JDBC) and protocols (HTTP, JMS), while enriching and transforming data using XSL and domain value mapping lookups.

With an ESB, you can route many services through a single proxy. Acting as an un-typed service proxy – a proxy that works based on headers, without knowing or caring about the operations being called – an ESB might perform decryption, signature validation, authorization and other tasks without having any hard-coded understanding of the types represented in the body of the message.

To summarize, an ESB is good for routing messages to multiple destinations. It is also good for doing transformations that have little to no variability due to business processes.

Overview of ActiveVOS for Business Process Applications

With ActiveVOS, you can build complex business process applications that invoke and interact with other systems, services, and humans. These business processes can be stateful and long-running, or transactional micro-flows. ActiveVOS provides the ability to design business processes with [BPMN 2.0](#) notation, a graphical notation that is easy for business users to understand but with rich capabilities to allow developers to build sophisticated applications.

A key part of nearly all business processes is the ability to bring people into the process. ActiveVOS provides the ability to include human tasks – a capability you won't find in an ESB. The human task capability enables steps in a business process that require human interaction (for example, approvals, reviews, and/or subject matter expert input) to be invoked as

a service. ActiveVOS implements human tasks based completely on open standards: the BPELforPeople extension to BPEL 2.0 and WS-Human Task. ActiveVOS also provides extensive tooling to build user interfaces for human tasks, and for monitoring the state of all business process instances.

Comparing and Contrasting ESB Message Routing and ActiveVOS Orchestration

In ActiveVOS and in an ESB, messages are received from an end system and processed. ActiveVOS natively supports web services (along with WS-Policy as a means of expressing security, reliable messaging, retry policy and the like) and WS-Addressing, JMS REST and plain old Java Objects (POJO) as a means of interacting with these systems. ActiveVOS supports synchronous and asynchronous message patterns and long running processes (with built-in fault recovery) as well as built-in correlation. ActiveVOS offers enterprise performance and scale needed for mission-critical deployments through clustering within and across geographically distributed data centers.

Also like an ESB, ActiveVOS can invoke end systems using the above communication mechanisms and patterns. Like an ESB, ActiveVOS transforms incoming data using XPath, XQuery and Javascript. ESBs and ActiveVOS can both digitally sign and encrypt/decrypt messages.

Both ESB technology and ActiveVOS support dynamic endpoint selection. Routing can be controlled within the process employing process data to perform a routing decision. The caller's identity can also be used to make routing decisions. Or endpoints can be statically assigned through configured through URN indirection.

Unlike ESBs, ActiveVOS provides a standards-based execution language by which to create and orchestrate business processes – [BPEL](#). ActiveVOS also provides rich semantics that ESBs do not such as parallel execution and forEach/while/repeat until constructs. Exceptions are caught and the developer has the means to control how and what to compensate; timers and event triggers are built in along with the associated event handlers.

Importantly, in ActiveVOS specifying the orchestration is entirely visual using the BPMN 2.0 notation.

ActiveVOS vs. an ESB

The table below summarizes the similarities and differences between ActiveVOS and an ESB:

Functional Area	ESB	ActiveVOS
Simple, short-lived transactions that are stateless	Yes	Yes
Long running transactions that maintain state	No	Yes
Compensation to roll back a transaction if all required steps are not completed successfully	No	Yes
Complex event, fault, and error handling	No	Yes
System-to-system interactions	Yes	Yes
Human Tasks	No	Yes
Ability to combine system-to-system interactions with human tasks in a business process	No	Yes
Simulation	No	Yes
Unit Testing	No	Yes
Automatic Version control when updating process descriptions	No	Yes
Hot Swap new versions of process descriptions	No	Yes
Operations Console to all introspection of running processes	No	Yes
Ability to suspend and restart processes	No	Yes
Reporting	No	Yes
Complex Event Processing	No	Yes

Summary

ActiveVOS and an ESB can be combined to exploit each product's strengths when building applications. Use an ESB to implement message flows and transformations, and to provide the adapters to various



systems and resources. Use ActiveVOS to build complex business process applications using the services that are exposed via the ESB. With this layered approach to a SOA architecture, one would look at ESB as a repository of services that ActiveVOS orchestrates. ActiveVOS sends and receives messages to and from ESBs as a standard feature.

However, ActiveVOS does not require an ESB. ActiveVOS has support for the widest variety of application and service endpoints: WSDL-defined services, RESTful services, JMS queues, Plain Old Java Objects, command shell utilities, EJBs, and more. If you already have access to the systems and services you need, you can easily develop your business process applications in ActiveVOS, and integrate services and applications via any of the endpoint types supported by ActiveVOS..

About Active Endpoints

Active Endpoints' (www.activevos.com) ActiveVOS is the business process management system (BPMS) that development teams will love. ActiveVOS empowers project teams to create business process management (BPM) applications using services, making their businesses more agile and effective. ActiveVOS promotes mass adoption of SOA-enabled BPM applications by focusing on accelerating project delivery time with a complete, affordable and easy-to-use system. Active Endpoints is headquartered in Waltham, MA with development facilities in Shelton, CT.

To find out how Active Endpoints can help your business, visit <http://www.activevos.com>, call +1 781 547 2900 and press 1 for Sales, or email us at info@activevos.com.