



What's New in ActiveVOS 7.0

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Contents

Introduction.....	3
A Detailed View of ActiveVOS 7.0.....	6
A Rich BPM Development Environment	6
Optimized BPMN Version 2.0 Canvas	6
Continuous Integration	7
Process Drill Down	8
Expression Content Assist and Evaluation	10
New Command Shell Execution Service.....	11
New Log Service and Logging Improvements	11
WS-HumanTask SDK	12
New EJB Invoke Handler	12
New Reporting Service.....	12
Document Auto-Generation	13
Operational Excellence	15
BPMN Process Detail Console View	15
Bulk Administration	15
Management Service API Reference Documentation and Samples.....	16
Multi-Site Cluster Improvements.....	16
Platform Improvements	17
New Supported Standards	17
Application Server Support	17
XA Database Transaction Support	17

Introduction

ActiveVOS™ 7.0 offers new levels of productivity for creating business process management ([BPM](#)) applications. Already the most complete, compatible and affordable BPM system available, ActiveVOS 7.0 breaks new ground in usability and productivity for the entire development team. In one easy-to-use product, development teams now have at their disposal everything required to deliver business processes and services that combine human and automated processing.

ActiveVOS 7.0 is a model-based process development and execution system that allows developers and business analysts to collaborate on process design and implementation using the Business Process Modeling ([BPMN](#)) 2.0 standard notation. In ActiveVOS 7.0 processes defined using BPMN 2.0 notation deploy to a scalable, proven [BPEL](#) (Business Process Execution Language) and WS-HumanTask ActiveVOS server for execution.

Using ActiveVOS 7.0, development teams can easily collaborate with business end users to model and implement complete BPM applications. Absolute fidelity between the visualization of the process throughout its design and its visualization once deployed ensures a shared view of the process and improves visibility across stakeholders. This makes ActiveVOS the very best way to introduce BPMN 2.0 to your entire organization.

For business analysts, software engineers and architects, ActiveVOS 7.0 offers:

- *Optimized BPMN 2.0 Canvas.* ActiveVOS 7.0 now offers the latest BPMN 2.0 notation for modeling and implementing business processes, making it easy for architects, business analysts and developers to work collaboratively and approachable for business end users with whom they need to interact. Structured activities can now be dragged and dropped from the ActiveVOS Designer palette onto the canvas, significantly reducing the amount of time required to model a process. The full power of BPMN 2.0 is also available for models in which the designer wants to control every aspect of the diagram. ActiveVOS 7.0's

BPMN designer promotes modeling best practices while being significantly easier to use.

- *Continuous Integration.* ActiveVOS 7.0 now supports continuous integration practices which permit development teams to employ the same testing methodologies for BPM that they use for any other development project. Support for continuous integration testing methodologies eliminates barriers to the adoption of BPM as the default development tool for applications.
- *Process Drill Down.* A model with many activities and processes can become hard to understand, even on a high-resolution display. Printing the model may help but complexity can quickly overwhelm users due to the amount of information contained in a process making it difficult to understand and cumbersome to manipulate. ActiveVOS Designer 7.0 addresses these challenges, and facilitates and encourages top down design with its process drill down feature. This feature now allows a user to quickly collapse and expand containers on the process canvas, and structure and navigate between levels of process detail using intuitive navigation features like a breadcrumb trail.
- *Expression Content Assist and Evaluation.* ActiveVOS Designer 7.0 now offers content assist and expression evaluation with its XPath and XQuery expression builders. This significantly improves the speed of development and removes a lot of guesswork in creating expressions.
- *New Command Shell Execution Service.* Access to legacy scripts in the ActiveVOS execution environment makes it far easier for development teams to build new processes that leverage existing applications.
- *New Log Service and Logging Improvements.* “Logging as a service” makes it possible for developers to fully instrument processes to assist in problem determination and isolation.
- *WS-HumanTask SDK.* There are many situations where extending an existing application with human task interaction is required or a need surfaces for a highly specialized and purpose-specific task client. ActiveVOS’s WS-HumanTask SDK provides developers with the ability to interact with its task management system and the supporting identity service.

For business analysts and end users, ActiveVOS 7.0 offers a rich work environment to enable users and business analysts to effectively model and manage core business processes:

- *New Reporting Service.* This new service makes it possible to schedule the generation, distribution and provide access via permalinks to ActiveVOS BPM reports to users and applications.
- *Document Auto-Generation.* Printing of large processes often yields unsatisfactory results on paper because of the sheer complexity of the process. ActiveVOS Designer 7.0 now auto-generates process documentation using a simple wizard that guides the user through the selection of the level of detail and process container levels, making it easier for stakeholders to collaborate on evolving the process model throughout its life.

For IT operations and support staff:

- *BPMN Process Detail Console View.* The BPMN 2.0 model that end users, process architects, business analysts and developers see during design-time and at deployment matches what the system displays at runtime. By visualizing the process the same way across design, deployment and at run time, ActiveVOS 7.0 helps everyone – IT, operations and end users – communicate and collaborate better about how the process is working. IT operations teams can also take advantage of new administration capabilities and the ability to share the same view of the process with business analysts and developers.
- *Bulk Process Administration.* The ActiveVOS console has been enhanced with a multi-select capability, allowing an operator to select groups of processes and perform actions on the selected group.
- *Multi-Site Cluster Improvement.* ActiveVOS 7.0 has improved multi-site cluster capabilities in the way it handles inter-site communication interruptions, offering operations staff better capabilities to maintain uninterrupted BPMS services.

These exciting new features are described below.

A Detailed View of ActiveVOS 7.0

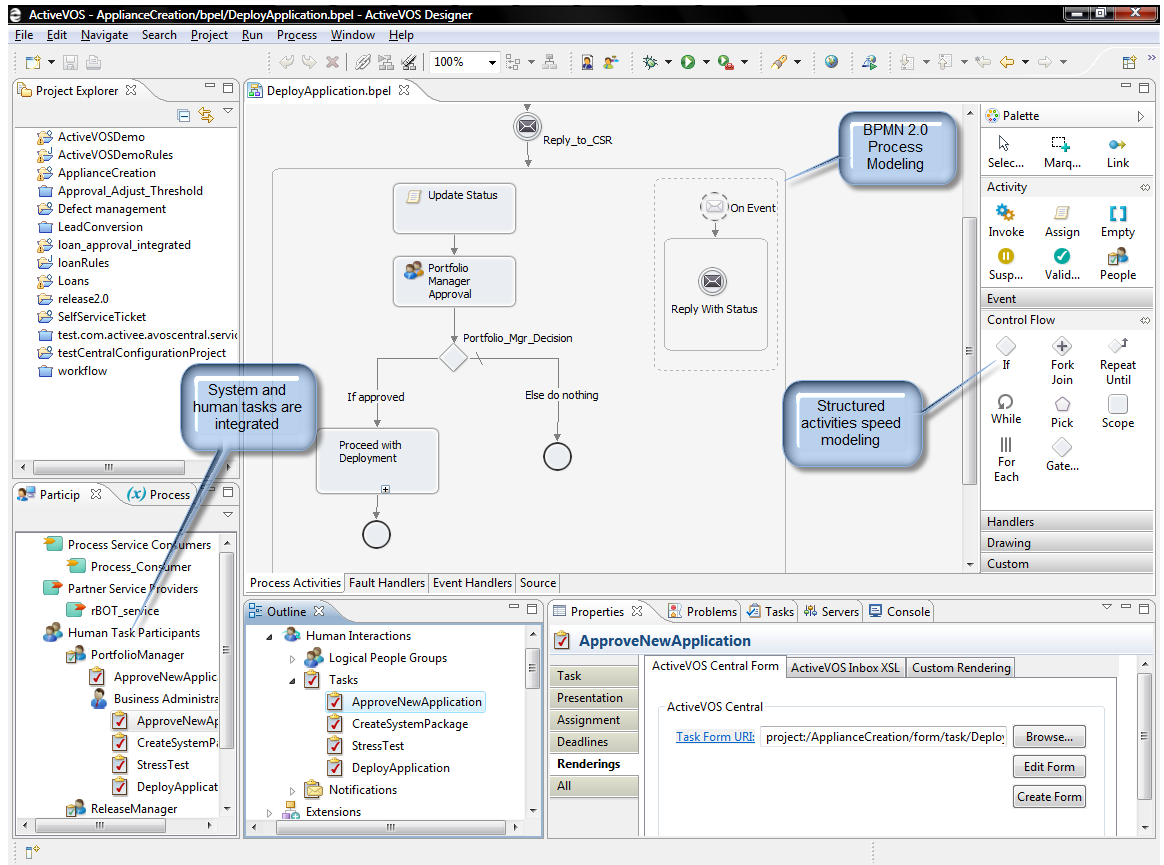
A Rich BPM Development Environment

Optimized BPMN Version 2.0 Canvas

We've worked hard to ensure that ActiveVOS will be the very best way to introduce BPMN 2.0 to your organization. ActiveVOS 7.0 now exposes the latest BPMN 2.0 notation for modeling and implementing BPEL processes and makes using BPMN 2.0 easy by optimizing the way in which architects and developers model and implement processes.

In ActiveVOS 7.0, a BPMN structured activity is collections of BPMN that can be used to accelerate process design. An example of a structured activity is a looping *repeat-until* construct that can be dragged onto the canvas in a single drag and drop gesture. Structured activities eliminate time-consuming tasks like connecting elements of a model and aligning them correctly. Instead of putting the burden on the person modeling the process to create every BPMN detail, a structured activity can be dragged and dropped from the ActiveVOS Designer's palette to the canvas using a single gesture. This significantly reduces the amount of time required to model a process as well as instilling best practices in process definition.

Using this approach, ActiveVOS eliminates the creation of error-prone BPMN models or models that while perhaps correct and conformant with BPMN syntax cannot be made to be executable because inappropriate constructs have been used. Access



This means that when a process architect models a process, the designer is always generating a correct, executable model which can be shared with an IT developer who can fill in any necessary execution details. In return, the developer can provide the model with any changes back to the architect without losing any fidelity. Nothing is lost in translation as there is none – everyone works on the same document using the same BPMN notation. A BPMN 2.0 visualization is now used from the time the process is modeled using top-down techniques, through implementation, and then, at deployment, the underlying BPEL definition can be deployed directly to a high-performance server.

For current ActiveVOS customers, a “Classic” mode editor provides upward compatibility with ActiveVOS 6.x models. Current users may also switch to BPMN 2.0 mode for their existing models to begin to take advantage of ActiveVOS 7.0’s BPMN capabilities.

Continuous Integration

In a Continuous Integration (CI) environment, you build and run your entire application on each build and then exercise it using the unit tests

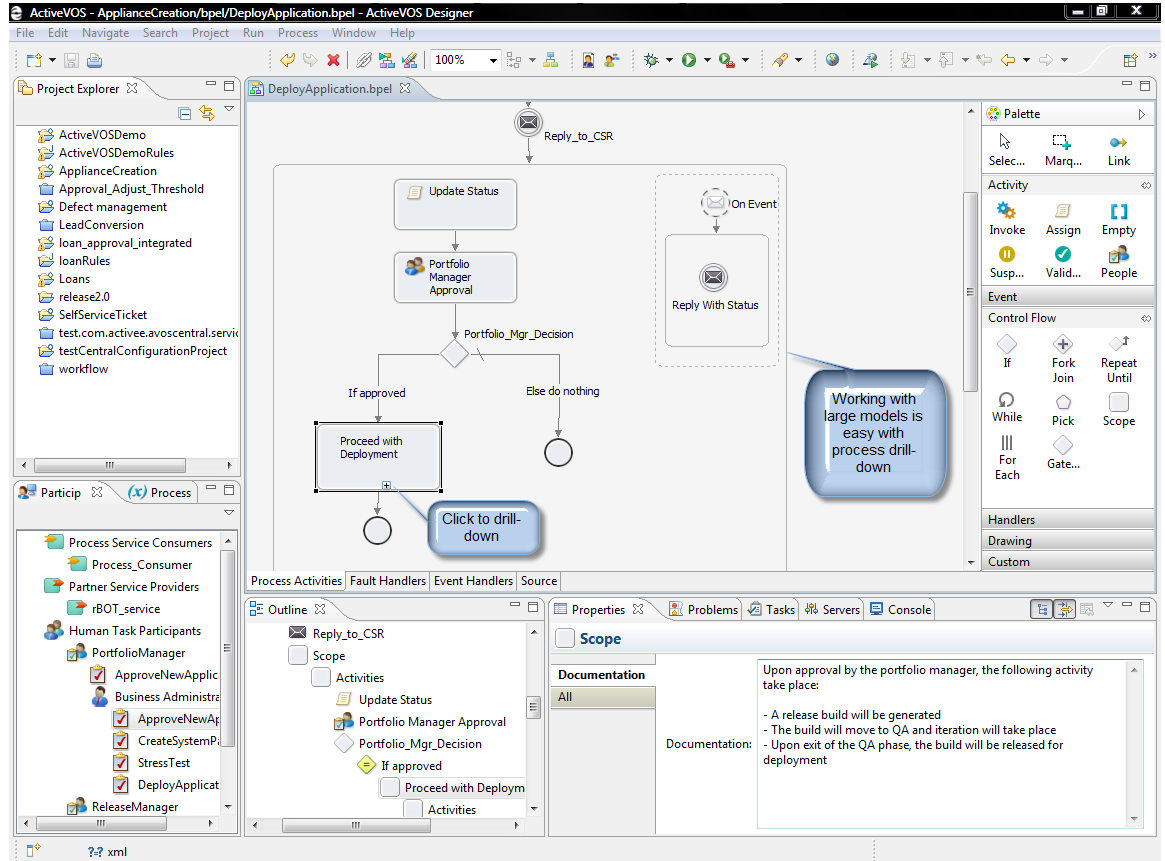
that have been built for it. In ActiveVOS, the deployable artifact is a Business Process Archive (BPR) that ActiveVOS Designer can generate using the auto-generated Ant Business Process Archive Deployment (BPRD) script. In previous releases of ActiveVOS, unit and suite testing routines, called BUnits and BSuites, were generated by ActiveVOS Designer during development testing or by using an embedded editor. These saved test suites could only be initiated in ActiveVOS Designer.

In ActiveVOS 7.0, a new installation option has been added to ActiveVOS Designer that deploys the components required allowing the ability to run BUnit and BSuite from the command line via Ant scripts. This makes testing applications easier and makes it easy to conform to CI methodologies.

This capability expands the way testing of process applications can be done. For example, it is possible to perform unit and suite testing locally and if those tests are successful, the process can be deployed to a target server where system testing using a variety of test harnesses can be employed.

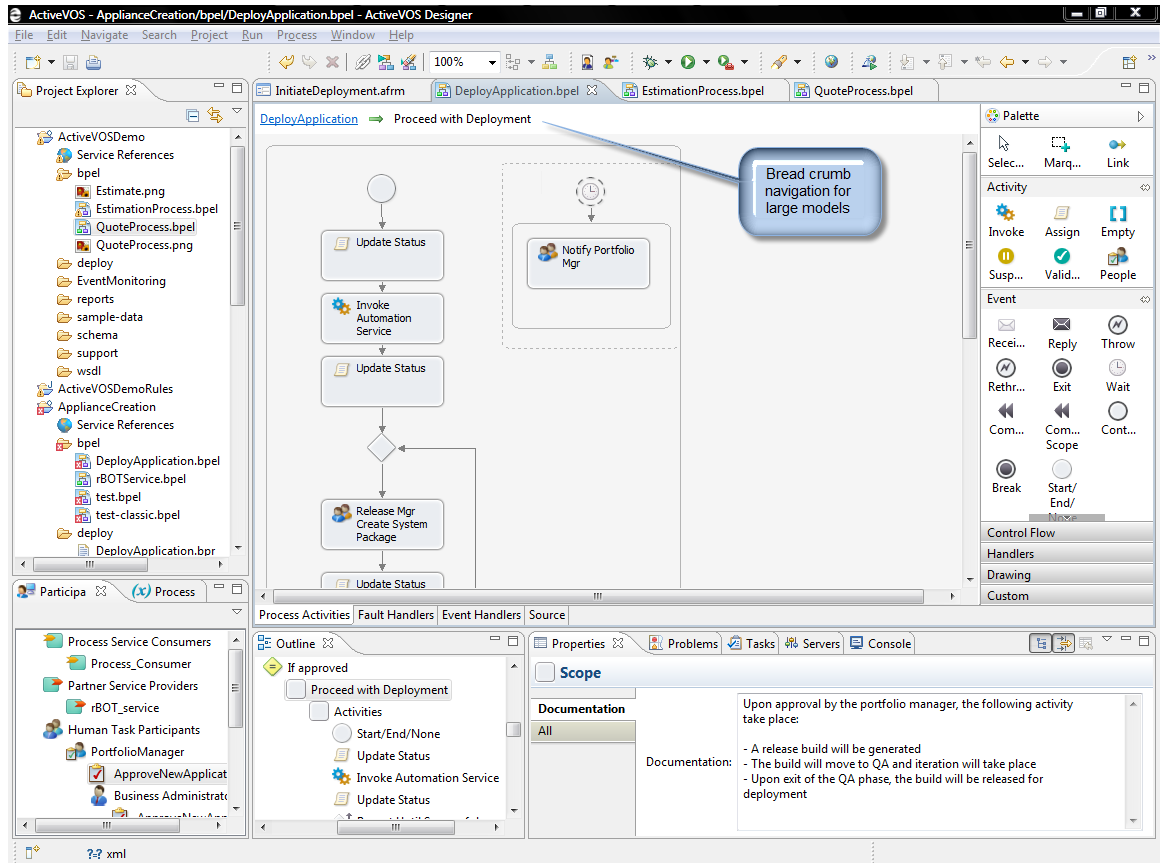
Process Drill Down

When designing large business processes, complexity can quickly get in the way simply because the visualization of the process model becomes very large and hard to see all at once. Very detailed processes and the sheer amount of information contained in a process model sometimes may make that model difficult to understand and cumbersome to manipulate. ActiveVOS Designer 7.0 addresses these challenges, and facilitates and encourages top down design with its process drill down feature.



A new process drill down feature solves this problem and allows a user to quickly collapse and expand containers on the process canvas and navigate between levels of process detail using simple and intuitive navigation clues, like the bread crumbs shown here.

Selecting a container's "+" icon suffices to expand a container such as a subprocess into its own editing canvas.



The collapsed and expanded visual states of a process can be saved by developers, allowing them to control the level of information presented to other users by default. This can be particularly useful when used in conjunction with the process detail view in the ActiveVOS console or when generating documentation for others to review.

Expression Content Assist and Evaluation

ActiveVOS Designer 7.0 now contains Content Assist with its XPath and XQuery expression builders.

With Content Assist a developer can quickly find the list of applicable variable names following a '\$'; for XPath expressions the list of applicable part names following a '.', or the list of applicable element names following a '/'; and finally the list of available function names. This significantly improves the speed of development and removes a lot of the guesswork in creating expressions.

Rather than simulating a process to test expressions, ActiveVOS Designer 7.0 now incorporates the ability to evaluate them at design-time. Using a

new “Evaluate” button incorporated in every expression dialog, a developer can test the expression using input simulation data and obtain results immediately. This saves developers from having to look for errors using simulation. Instead, developers can perform simple tests very quickly and directly in the expression builders.

New Command Shell Execution Service

New system services have been exposed with ActiveVOS 7.0 enabling developers to take advantage of capabilities that were not previously exposed to developers.

Many critical existing applications rely on scripts to perform their work. For customers where service interfaces are not yet prevalent or are being developed, the ability to leverage legacy scripts in ActiveVOS 7.0 makes it easier to develop new process applications.

For example, user account provisioning in Microsoft® Active Directory can now be easily achieved by invoking a Microsoft Active Directory Service Interfaces (ADSI) script with a set of parameters originating from a process. Error processing from scripts is possible and can be handled by the calling process. Various actions are available in an error situation, for example invoking the ActiveVOS 7.0 log service to log a problem and/or create a human task to handle the error condition.

This makes building integration, provisioning and similar solutions easy, and offers the benefits of orchestration to new communities of users, such as data center operations teams.

New Log Service and Logging Improvements

ActiveVOS 7.0 now exposes logging as a service which can be used by process developers to report error conditions in a single location, helping to significantly reduce problem isolation.

ActiveVOS logging has been significantly enhanced and now:

- Captures when a deployment is performed
- Captures changes in server configuration
- Offers a single log for clustered environments
- Makes exportable logs where each entry is given a unique log ID so that it can be easily referred to, and
- Makes logging verbosity a configurable option.

These capabilities, when used in conjunction with ActiveVOS process exception management capabilities, significantly heighten the resilience and troubleshooting of BPM solutions.

WS-HumanTask SDK

ActiveVOS's task management system is an implementation of the OASIS WS-HumanTask specification. Deployed processes can take full advantage of this standard to create processes that include both human and system tasks. In addition, there are many situations where extending an existing application with human task interaction is required or a need surfaces for a highly specialized and purpose-specific task client.

To meet this need, Active Endpoints has made available a Java Client SDK that makes it easy for developers to build their own WS-HumanTask client. The ActiveVOS WS-HumanTask and Identity Service SDK are now available to developers in the In-depth section of www.activevos.com. JavaDoc is available with the SDK and the samples are a great way for developers to get started quickly.

The WS-HumanTask SDK permits developers to create unique and custom implementations of processes using the WS-HumanTask standards that, for example, leverage orchestration and human tasks in ways not yet anticipated or available in ActiveVOS's task list client.

New EJB Invoke Handler

Many development teams have built large collections of services implemented as Enterprise Java Beans (EJB) that they would like to invoke directly. Wrapping EJBs as Web services can be overly cumbersome and might not be desirable in many situations.

Previous releases of ActiveVOS supported wrapping POJOs (plain old Java objects) as services. ActiveVOS 7.0 extends this support to EJB and allows the handler to do virtually everything the POJO invoke handler does currently. For EJB, new object instances are created via a Java Naming and Directory Interface (JNDI) lookup. ActiveVOS 7.0 allows developers to reuse what they have today.

New Reporting Service

ActiveVOS 7.0 now makes it possible to create a process that invokes the ActiveVOS Reporting Service to generate a report, specify the report's output format (HTML, .pdf, .doc, .xls, .ppt, or .xml). The reporting service

can also schedule reports and email the completed report to a specific user and/or a distribution list.

In addition to executing a report by accessing it from a URL, it is also now possible to obtain its last cached copy so that information can be accessed instantaneously. URL parameters make use to specify the output type as well as whether or not to use a cached report.

The ActiveVOS 7.0 reporting services makes it easy to disseminate BPM information to users or to embed in portals and web applications these reports.

Document Auto-Generation

Printing of large processes often yields unsatisfactory results because of the sheer complexity of the process. Furthermore, a diagram does not always tell the whole story which is contained in the details of the process definition.

In order to deal with these challenges ActiveVOS Designer 7.0 now auto-generates process documentation using a simple wizard that guides the user through the selection of the level of detail and process container levels (as defined by developers or process modelers using the process drill-down feature) to report on. The documentation includes varying levels of details such as process diagrams, details on process participants and the details of the operations exposed and consumed by the process.

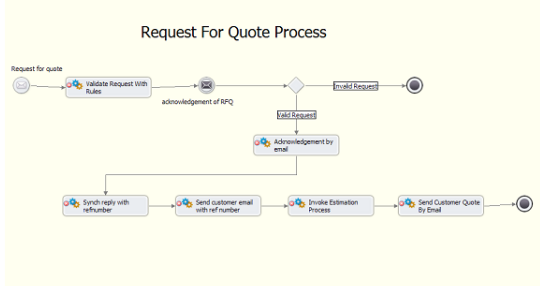
The document generated is written to RTF format which when used with, for example, Microsoft Word offers a great way to detect and report changes using Word's document compare facilities.

Process documentation is generated automatically

1. Purpose

This text is taken from the documentation property for the BPEL process.

2. Business Process Diagram



```

    graph LR
      Start((Request for quote)) --> Validate[Validate Request With Rules]
      Validate --> Ack[acknowledgement of RFQ]
      Ack --> Valid{Valid Request?}
      Valid --> Invalid((Invalid Request))
      Invalid --> End1(( ))
      Valid --> AckEmail[acknowledgement by email]
      AckEmail --> Sync[Synch reply with refNumber]
      Sync --> SendEmail[Send customer email with ref number]
      SendEmail --> Invoke[Invoke Estimation Process]
      Invoke --> SendQuote[Send Customer Quote By Email]
      SendQuote --> End2(( ))
  
```

3. Participants

3.1. Process Service Consumers

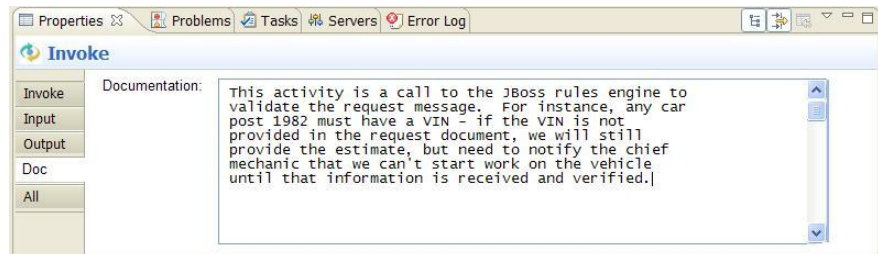
Participant	Documentation	Activities
RFQ_Process	This is the RFQ process itself	Request_for_quote Acknowledgement of RFQ

3.2. Partner Service Providers

Participant	Documentation	Activities
DroolsService	These entries are the documentation properties for the participant (not the activities)	Validate_Request_With_Rules

Page: 3 of 4 | Words: 305 | English (United States)

To facilitate and promote the use of documented processes, a new documentation tab has been introduced, allowing developers and process architects with the means to annotate every aspect of the process.



Invoke

Documentation:

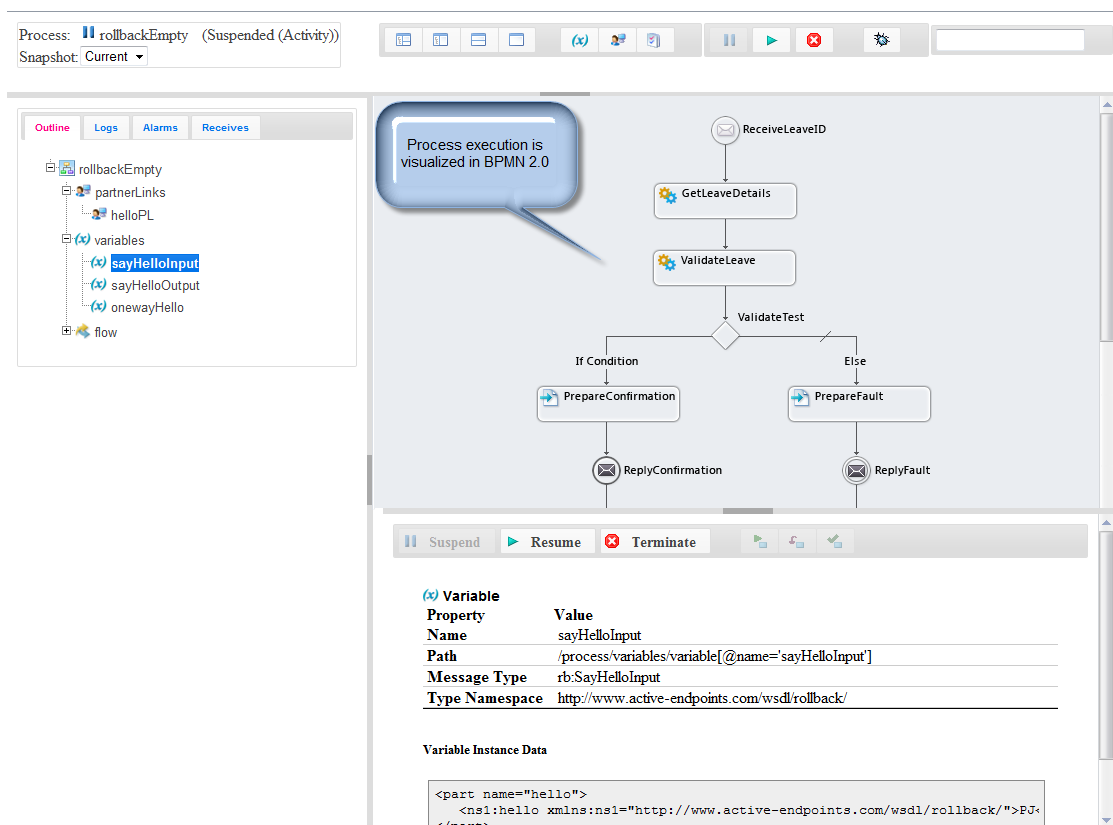
```

    This activity is a call to the JBoss rules engine to validate the request message. For instance, any car post 1982 must have a VIN - if the VIN is not provided in the request document, we will still provide the estimate, but need to notify the chief mechanic that we can't start work on the vehicle until that information is received and verified.
  
```

Operational Excellence

BPMN Process Detail Console View

What process architects and developers see during design time at deployment time is what is also displayed at runtime. The use of a single notation is important to ensuring that all stakeholders are on the same page. This permits operations staff and others who are responsible for keeping the BPMS up and running to easily collaborate with the extended development staff in case of a problem or to determine when and where to use ActiveVOS Process Rewind. Process Rewind can restart a process at a particular point in time, ensuring that the work of long-running tasks is not lost if sections of the process need to be re-done.



The screenshot displays the BPMN Process Detail Console View for a process named 'rollbackEmpty' (Suspended (Activity)). The process diagram shows a flow starting with 'ReceiveLeaveID', followed by 'GetLeaveDetails', 'ValidateLeave', and a 'ValidateTest' decision. The 'ValidateTest' decision branches into 'If Condition' (leading to 'PrepareConfirmation') and 'Else' (leading to 'PrepareFault'). Both paths end with 'ReplyConfirmation' and 'ReplyFault' respectively. A callout box indicates 'Process execution is visualized in BPMN 2.0'. The left sidebar shows the process outline with 'sayHelloInput' selected. The bottom panel shows variable details for 'sayHelloInput'.

Property	Value
Name	sayHelloInput
Path	/process/variables/variable[@name='sayHelloInput']
Message Type	rb:SayHelloInput
Type Namespace	http://www.active-endpoints.com/wsd/rollback/

```

Variable Instance Data
<part name="hello">
  <ns1:hello xmlns:ns1="http://www.active-endpoints.com/wsd/rollback/">BJ<
</part>
  
```

(PREVIEW)

Bulk Administration

During development it is common to need to clean up processes that have faulted or suspended. This need is heightened during operational phases where problems with a partner system such as unavailability for a long time or bad input data can cause a process to suspend. Operations

staff might be tasked to rectify an error condition attributed to external participants. In this case, the ability for operations staff to quickly and effectively manage the BPMS is important to restoring service.

To help deal with these situations the ActiveVOS console has been enhanced with a multi-select capability, allowing an operator to make a bulk selection of qualifying processes and to resume all suspended processes en masse.

Management Service API Reference Documentation and Samples

It may also be desirable to automate management actions via scripts. ActiveVOS 7.0 enables this through the use of administration samples and a fully documented ActiveVOS Management Service API. Using this new API, developers can deliver to operations teams complete processes that implement administrative actions. In addition, if user input is required, ActiveVOS Designer forms can be used as an interface to invoke administrative actions using parameters.

Multi-Site Cluster Improvements

ActiveVOS 7.0 expands on multi-site cluster capabilities introduced with ActiveVOS 6.2 in the way it handles inter-site communication interruptions.

When inter-site communications fail, ActiveVOS 7.0 now allows a multi-site cluster to continue to operate autonomously and automatically resumes multi-site cluster operations when the inter-site communication is re-established. It is also now possible to control if failover occurs automatically or manually when an inter-site heartbeat failure is detected.

ActiveVOS 7.0 enhancements include the ability for an operator to manually fail over a site, allowing operations staff to control where a scheduled operation will execute.

These improvements assist operations staffs to maintain operational resilience in the face of partial communications failure.

Platform Improvements

New Supported Standards

In addition to the [exhaustive list of standards](#) already supported by ActiveVOS, version 7.0 adds and updates support for various standards including:

- WS-I Basic Profile 1.1
- SOAP 1.2
- SAML 2.0 Support

Application Server Support

Updated choices include support for

- Red Hat JBoss Application Server 5.0
- IBM WebSphere 7

XA Database Transaction Support

XA transactional support is now available ensuring that a communications protocol failure (*e.g.* JMS failure) will not result in avoidable duplicate process instances being created. In situations where an "Exactly Once" guarantee is mandated, XA transaction support should be considered.

XA support is now available for the following databases and application servers providing a JTA transaction manager:

Databases: Oracle Database 10g, MySQL 5.x, Microsoft SQL Server 2005, IBM DB2 8.x and 9.x

Servers: Red Hat JBoss Enterprise SOA Platform, Oracle WebLogic, IBM WebSphere Server

About Active Endpoints

Active Endpoints' (www.activevos.com) ActiveVOS is the business process management system ([BPMS](#)) that development teams will love. ActiveVOS empowers collaboration between IT and end users to create [BPM](#) applications using services, making their organizations more agile and effective. ActiveVOS promotes mass adoption of 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.