

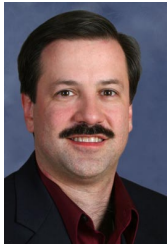


January 28, 2008

# The Forrester Wave™: SOA Service Life-Cycle Management, Q1 2008

by Larry Fulton

for Enterprise Architecture Professionals



January 28, 2008

## The Forrester Wave™: SOA Service Life-Cycle Management, Q1 2008

BEA Systems Leads, With Software AG and LogicLibrary Close Behind

by **Larry Fulton**

with Randy Heffner and David D'Silva

### EXECUTIVE SUMMARY

Forrester evaluated leading service-oriented architecture (SOA) service life-cycle management vendors against 96 criteria and found that BEA Systems, Software AG, and LogicLibrary established leadership, thanks to their SOA service life-cycle management capabilities and breadth of process focus. BEA provides the most comprehensive combination of features, breadth of capability, and out-of-the-box process enhancements. Software AG and LogicLibrary scored almost identically, each providing several unique value-added features, with Software AG providing the strongest user experience and LogicLibrary providing the strongest overall reporting and analytics capability. HP, IBM, and SOA Software, are Strong Performers, fully capable of supporting enterprise-level SOA service life-cycle management needs but with a somewhat narrower assortment of value-added templates, built-in best practices, and usability enhancements than the Leaders bring to the table. All three are maturing rapidly and incorporate the strong underlying workflow and repository foundation needed to support these kinds of additions in the future.

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Forrester conducted product evaluations in August and September 2007, and interviewed six vendor companies: BEA Systems, HP, IBM, LogicLibrary, SOA Software, and Software AG.

#### **Related Research Documents**

"Defining SOA Service Life-Cycle Management"  
January 24, 2008

"SOA Repositories: Crucial To SOA Governance Success"  
October 10, 2006

## SERVICE LIFE-CYCLE MANAGEMENT IS A MAJOR ENABLER OF SOA

With increasing adoption of SOA and growth of enterprise service portfolios, organizations struggle to provide effective service life-cycle management that scales across the enterprise.<sup>1</sup> A manual process is sufficient to coordinate a handful of teams providing and consuming a relatively static catalog of services, particularly in a pilot setting, but robust processes and automation are necessary to manage a large number of teams using a dynamic and diverse service catalog. The common term for the products in this evaluation is “SOA repositories,” but Forrester has chosen to call them SOA service life-cycle management solutions because they provide more than just storage and cataloging of information about individual services — they also automate the process of service life-cycle management, providing a combination of the following capabilities, each critical to running an effective, scalable service life-cycle management process that supports necessary organizational discipline:

- **Sophisticated workflow governing the service life cycle.** With potentially dozens or even hundreds of services under consideration, under construction, in testing, or being consumed at any given time, by many independent development teams, enterprise architects need an automated process that coordinates all of this activity and ensures that every step is subject to appropriate review and approval.
- **Robust electronic notification and approval.** Email, RSS, and other means must be available to notify stakeholders and approvers of important events about specific service interfaces.
- **Flexible categorization of services and other assets.** As the service portfolio grows, identifying the correct service when and where needed requires flexible categorization and search capabilities.
- **Automated capture of relationships among services and between services and business processes.** As services or business processes are changed, impact assessment is only possible if the complete set of dependencies is available for review.
- **Reporting on key metrics to support planning and assessment.** This is important both for the planning and assessment of the life-cycle management process itself and for the individual services and business processes captured and managed through the life-cycle management process.
- **Flexible customization of asset types and life cycles.** Custom asset and artifact types are necessary to adapt the built-in life-cycle process to the specifics of your organization. For example, you may have specific services subject to a unique set of approvals because they are customer facing, and one way to do this is by creating a customer asset type. Or you may wish to group services according to which division supports them, in this case by creating a new “division” asset type.

- **Integration with runtime environments.** Information about service behavior in production can trigger process activities, and acquiring this information is the job of integration with runtime environments like registries, enterprise service buses (ESBs), and SOA management solutions.
- **Introspection of common interface definition artifacts.** WSDL, XSD, BPEL, XPD, and other XML-based definitions often incorporate valuable information relating services and other assets to each other or to business processes. Automated introspection of these artifacts eliminates the need to manually create these assets and relationships to add that information to the underlying asset repository.

### Solutions Are Evolving Toward A Broader Audience, Come Primarily From Major SOA Players

Most of the evaluated solutions come from major SOA players — two come from major platform vendors IBM and BEA, one from major vendor Software AG, one from major platform-independent vendor HP, and one from specialist SOA vendor SOA Software. The exception is Logidex, the only product from specialty vendor LogicLibrary. Indeed, the only major platform vendors without a life-cycle management solution today are Oracle and Sun Microsystems.

Enterprise-scale SOA is unwieldy without some level of process automation. These solutions address this need through workflow defined around the life cycle of specific asset types, including services, business processes, composite applications, and others. The work associated with each life-cycle stage (candidate service, interface design, development, deployment, operation, etc.) either consumes or creates information (or both), which is stored and maintained by the underlying asset repository.

The basic machinery provided by these solutions is very flexible, and fitting these solutions into your organization's needs would be very complicated without a wealth of preconfigured asset types, life-cycle processes, templates, canned reports, and intelligent analysis tools. This is the major innovation frontier for this space, with vendors adding features and best practices identified and refined through their work with early adopters. The solutions provide essentially equivalent capabilities for managing customized life cycles for built-in and custom asset types. Where they compete is in the addition of advanced process features, maintaining an unintimidating user experience and including enough out-of-the-box templates and default configurations to make initial implementation and customization successful.

### SOA SERVICE LIFE-CYCLE MANAGEMENT EVALUATION OVERVIEW

To assess the state of the SOA service life-cycle management market and see how the vendors stack up against each other, Forrester evaluated the strengths and weaknesses of top SOA service life-cycle management vendors.

## Evaluation Criteria

After examining past research, user need assessments, and vendor and expert interviews, we developed a comprehensive set of evaluation criteria. We evaluated vendors against approximately 96 criteria, which we grouped into three high-level buckets:

- **Current offering.** The current offering criteria look at functional and technical aspects of the vendor solutions. All of the products consist of an asset management life-cycle workflow capability wrapped around a flexible metadata repository. Each supports multiple asset types (a service is one asset type) and multiple life-cycle stages. Assets advance through life-cycle stages by acquiring necessary artifacts (WSDL definitions, XML schemas, requirements documents, test results, etc.) and acquiring necessary organizational approvals. All give you the ability to add asset types beyond what is included out-of-the-box and to customize the life cycles associated with any particular asset type. This section includes criteria regarding support of these common functions, the user experience, categorization and search, reporting, asset creation and population, customization, and multiple categories of integration.

Vendors' offerings vary primarily in the kinds of added-value capabilities provided out-of-the-box or in the richness of the possible customization. Since flexible workflow and metadata engines are the foundation for all of these products, users can create many of their own process variations and even entire workflows or add capabilities through scripting and integration, so the inclusion or lack of any one feature is not going to be a make-or-break proposition.

- **Strategy.** The solutions have varied histories, but all are focused today on providing increasing enterprise support for a robust service life-cycle management process. This section includes information about solution cost and specifics about each vendor's philosophy for life-cycle management and for supporting an enterprise-class process.
- **Market presence.** Though asset repositories are not a new phenomenon, the application of this workflow technology to SOA service life-cycle management has become a major trend only in the last 18 months. In fact, most vendors have seen roughly 50% growth in the number of customers in the past year. Criteria in this section provide the current market footprint of each solution and each vendor.

## Each Solution Provides Standalone, Design-Time Service Life-Cycle Management

Forrester included six vendors in the assessment: BEA, HP, IBM, LogicLibrary, SOA Software, and Software AG. Each of these vendors has a solution that (see Figure 1):

- **Has multiple active deployments.** To ensure that there are reference customers with sufficient experience to judge the product, the vendor was required to have multiple production deployments as of March 31, 2007. The particular version of the solution evaluated had to be available for purchase and implementation as of August 31, 2007.

- **Supports design-time service life-cycle management.** Asset repositories and service registries have roles outside of design-time service life-cycle management. Eligible solutions automate the management of definition, design, implementation, validation, and deployment of service interfaces.
- **Is viable as a standalone offering.** This means that a customer could realistically purchase only this product from a vendor and use it as intended. It is acceptable from an entrance criteria standpoint if other products from a vendor require that vendor's repository product(s).

### SOLUTIONS DIFFERENTIATE THEMSELVES ON ADDED VALUE, NOT BASIC MACHINERY

The evaluation uncovered a market in which (see Figure 2):

- **BEA, Software AG, and LogicLibrary lead the pack.** On top of the basic workflow and repository machinery, all three vendors have invested considerably in extra capabilities to simplify implementing and using their solutions, including slick dynamic graphical relationship explorers, rich collections of out-of-the-box reports, advanced categorization and search features, and extended support for asset types like business processes, projects, and architectures.
- **HP, IBM, and SOA Software qualify as Strong Performers.** While all of these vendors provide strong functionality overall, they don't provide the same level of extra capability as the Leaders. It is also worth noting that the space separating these solutions from the Leaders in our evaluation is very small indeed. However, the solutions' basic repository and workflow machinery can provide a strong foundation for rapid innovation and evolution of each of these solutions, driven by each vendor's strategic vision. Each of these vendors has aggressive plans for driving new functionality into their solutions in the future.

This evaluation of the SOA service life-cycle management market is a starting point only. Readers are encouraged to view detailed product evaluations and adapt the criteria weightings to fit their individual needs through the Forrester Wave Excel-based vendor comparison tool.

**Figure 1** Evaluated Vendors: Vendor Information And Selection Criteria

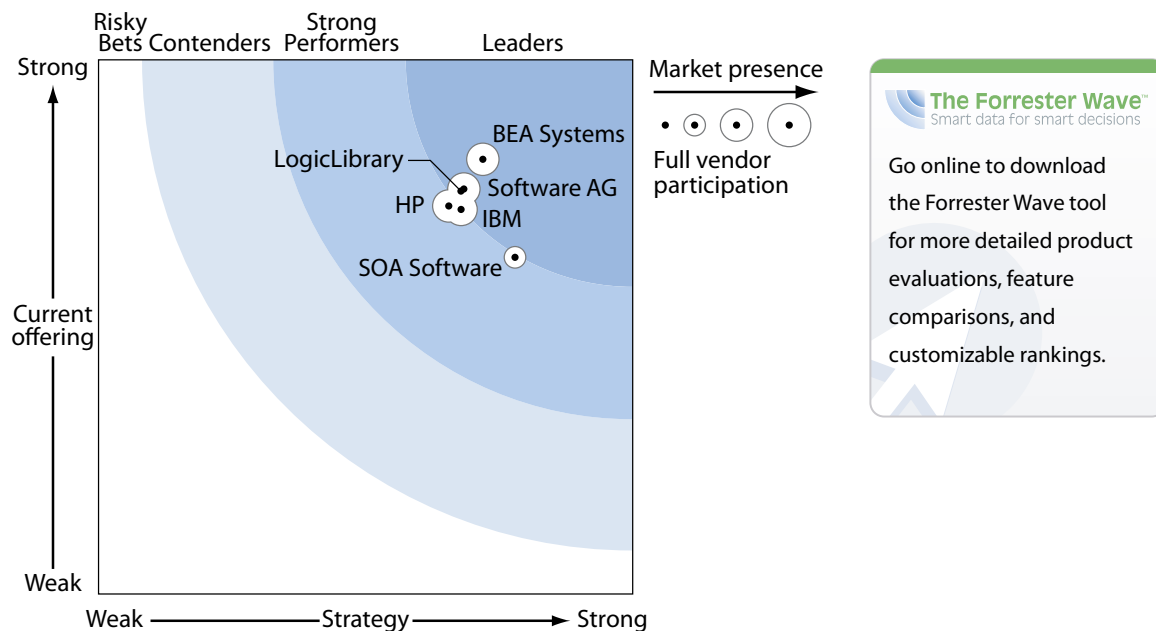
Vendor	Solution evaluated	Product version evaluated	Version release date
BEA Systems	AquaLogic Registry Repository (ALRR)	3.0	August 2007
HP	HP SOA Systinet	2.51	September 2007
IBM	Rational Asset Manager (RAM) combined with WebSphere Service Registry and Repository (WSRR)	7 6.0.2	June 2007 May 2007
LogicLibrary	Logidex	5.6	September 2007
SOA Software	Workbench	5.1	March 2007
Software AG	CentraSite Governance Edition	7.1	August 2007

**Vendor qualification criteria**

- The vendor has multiple active deployments.
- The vendor supports design-time service life-cycle management.
- The product is viable as a standalone offering.

Source: Forrester Research, Inc.

**Figure 2** Forrester Wave™: SOA Service Life-Cycle Management, Q1 '08



Source: Forrester Research, Inc.

**Figure 2** Forrester Wave™: SOA Service Life-Cycle Management, Q1 '08 (Cont.)

	Forrester's Weighting	BEA Systems	HP	IBM	LogicLibrary	SOA Software	Software AG
<b>CURRENT OFFERING</b>	50%	4.05	3.61	3.58	3.75	3.20	3.77
Products included	0%	0.00	0.00	0.00	0.00	0.00	0.00
Product release date	0%	0.00	0.00	0.00	0.00	0.00	0.00
Solution functionality	90%	4.06	3.57	3.53	3.74	3.20	3.76
Solution architecture	10%	3.97	3.97	4.01	3.90	3.26	3.81
<b>STRATEGY</b>	50%	3.60	3.28	3.40	3.40	3.90	3.42
Product strategy	60%	4.00	4.00	4.00	4.00	3.70	3.70
Cost	40%	3.00	2.20	2.50	2.50	4.20	3.00
<b>MARKET PRESENCE</b>	0%	3.31	3.36	3.30	1.90	2.84	3.46
Installed base	40%	3.60	3.40	3.80	2.10	3.20	4.55
Revenue	20%	3.00	3.50	4.00	1.00	2.50	3.00
Revenue growth	20%	3.00	4.50	0.50	3.00	3.00	1.50
Services	20%	3.35	2.00	4.40	1.30	2.30	3.70

All scores are based on a scale of 0 (weak) to 5 (strong).

Source: Forrester Research, Inc.

## VENDOR PROFILES

### Leaders

- **BEA.** BEA's AquaLogic Registry Repository (ALRR) consists of both AquaLogic Enterprise Repository, originally designed by Flashline (which was acquired by BEA in 2006) as a software asset life-cycle management repository, and AquaLogic Service Registry, an OEM version of HP's Systinet Registry. BEA provides the broadest and most comprehensive set of features, with a clear focus on customers' life-cycle management process. The solution includes many enhancements beyond mere automation of the service life cycle like, for example, planning for consumption of services (and other assets) in accordance with a target architecture, advanced support for projects and portfolios, slick graphical tools for exploring dependencies among assets, and capturing and reporting of multiple metrics for process effectiveness.
- **Software AG.** CentraSite was originally a joint development effort between Software AG and Fujitsu and is available in a freely downloadable "community" and a paid license "enterprise" edition. Software AG's CentraSite Governance Edition, incorporates functionality from CentraSite Enterprise and from the Infravio repository acquired by Software AG through its acquisition of webMethods earlier in 2007. The Governance Edition evaluated by Forrester has

strong core capabilities including introspection of BPEL and XPD L business service definitions, unique built-in WSDL viewing and editing, and leading UI customization capabilities. It has only basic reporting capabilities, cannot accommodate third-party SQL-based reporting tools (because its repository is built on an XML database), and is just starting to incorporate advanced features like deep support for projects or architecture planning. As the product develops, CentraSite's pragmatic and collaborative view of the enterprise, combined with deeper integration of Infravio's significant workflow and repository horsepower, will strengthen its position as a highly flexible, easily consumed, and vendor neutral solution.

- **LogicLibrary.** LogicLibrary's Logidex began as a software asset life-cycle management repository, and it has remained current with SOA service life-cycle developments. Logidex provides a broad and comprehensive set of features with the strongest reporting and analytics capability. The product includes a number of value-added features, including sharp graphical tools for exploring asset interdependencies, advanced support for projects and project-based governance rules, built-in service and other asset reuse metrics and reporting, and extremely flexible facilities for categorizing and finding services and other assets. Logidex is also the only offering available in a native .NET implementation (as well as a native Java EE implementation). LogicLibrary is a small, privately held company, but it has extensive partnerships and enterprisewide implementations in major organizations worldwide.

### Strong Performers

- **HP.** The HP SOA Systinet solution started life as Systinet's flagship SOA governance offering. Mercury Software acquired Systinet in early 2006, and HP acquired Mercury later that same year. Systinet is the best recognized brand in this market, owing in large part to the OEMing of Systinet Registry, a UDDI registry with a Web-based user interface, by such vendors as BEA and Oracle. Systinet repository has all of the critical workflow and repository machinery and leads in the customer's ability to incorporate nonvendor content into the user interface, in supporting the deployment of runtime policies, and in the available mechanisms for exporting alerts. The product currently has a comparatively small library of built-in reports and it lacks extra features like embedded best practices, introspection of BPEL business description to automatically create assets and relationships, and extra support for assets like projects. HP SOA Systinet's sophistication has increased dramatically in the last two years, during which time HP has fully integrated the product with its SOA quality and management portfolio. With its strong foundation and leading user interface extensibility, HP has the opportunity to significantly ramp up its evolution of features and best practices on the Systinet platform.
- **IBM.** Rational Asset Manager (RAM) and WebSphere Service Registry and Repository (WSRR) together form IBM's entry in this evaluation. WSRR goes well beyond the capabilities of a UDDI registry to provide a runtime repository that also sports a flexible browser interface; WSRR alone provides simple life-cycle management for WS-centric assets and will meet the

life-cycle management needs of organizations that have strong development processes in place and are looking primarily for a robust and managed service catalog and registry strategy. Rational Asset Manager, introduced earlier in 2007 by IBM, is a full-fledged asset life-cycle management repository. The combination of both products provides design-time, development-time, and runtime repository capabilities, and it forms two legs of IBM's broader repository strategy. Clearly both are required for full-scale enterprise capabilities from IBM. RAM is surprisingly mature and comprehensive for a version 1.0 product. Its strengths include great flexibility in dealing with enterprise-scale process complexities, a collaborative perspective on service consumption, and leading capabilities in the support of multiple target environments. Its current weaknesses include limited out-of-the-box support for business processes, limited support for prepopulation of service and other assets, and limited support for things like projects or architectures. IBM has demonstrated through RAM that it has learned to field and evolve high-quality, feature-rich software very aggressively, an indicator that IBM is positioned to close these gaps quickly.

- **SOA Software.** The Workbench repository is one of a pair of products, the other being SOA Software's runtime environment, SOA Manager. Together, these products fulfill SOA Software's vision of "closed loop governance" — they are tightly integrated to ensure that services and policies specified within Workbench are fully deployed, enforced, and monitored within SOA Manager and that production performance and operation are accurately reported back to Workbench. Workbench supports other runtime environments, typically through a UDDI interface, but its deepest runtime integration lies with SOA Manager. Workbench includes the asset life-cycle management features that other vendors have and leads in its support for validating Web services interfaces and, not surprisingly, in its level of support of production monitoring and measurement. Its key weakness is its laser focus on Web services interfaces — support for non-WS interfaces requires much customization. It has no ability to introspect BPEL definitions of business processes, has a versioning model that is very Web services-centric, and generally requires administrators to understand fundamental UDDI concepts like tModels. SOA Software is philosophically against extending Workbench into the modeling realm, preferring an integration approach with other vendors whose expertise lies in that area. Workbench will appeal most to customers who buy into the closed loop governance vision and who rely upon Web services as their interface technology of choice.

## SUPPLEMENTAL MATERIAL

### Online Resource

The online version of Figure 2 is an Excel-based vendor comparison tool that provides detailed product evaluations and customizable rankings.

## Data Sources Used In This Forrester Wave

Forrester used a combination of three data sources to assess the strengths and weaknesses of each solution:

- **Vendor surveys.** Forrester surveyed vendors on their capabilities as they relate to the evaluation criteria. Once we analyzed the completed vendor surveys, we conducted vendor calls where necessary to gather details of vendor qualifications.
- **Product demos.** We asked vendors to conduct demonstrations of their product's functionality. We used findings from these product demos to validate details of each vendor's product capabilities.
- **Customer reference calls.** To validate product and vendor qualifications, Forrester also conducted reference calls with two of each vendor's current customers.

## The Forrester Wave Methodology

We conduct primary research to develop a list of vendors that meet our criteria to be evaluated in this market. From that initial pool of vendors, we then narrow our final list. We choose these vendors based on: 1) product fit; 2) customer success; and 3) Forrester client demand. We eliminate vendors that have limited customer references and products that don't fit the scope of our evaluation.

After examining past research, user need assessments, and vendor and expert interviews, we develop the initial evaluation criteria. To evaluate the vendors and their products against our set of criteria, we gather details of product qualifications through a combination of lab evaluations, questionnaires, demos, and/or discussions with client references. We send evaluations to the vendors for their review, and we adjust the evaluations to provide the most accurate view of vendor offerings and strategies.

We set default weightings to reflect our analysis of the needs of large user companies — and/or other scenarios as outlined in the Forrester Wave document — and then score the vendors based on a clearly defined scale. These default weightings are intended only as a starting point, and readers are encouraged to adapt the weightings to fit their individual needs through the Excel-based tool. The final scores generate the graphical depiction of the market based on current offering, strategy, and market presence. Forrester intends to update vendor evaluations regularly as product capabilities and vendor strategies evolve.

## ENDNOTES

- <sup>1</sup> Forrester business survey data forecasts SOA penetration in excess of 60% of North American and European firms. See the February 28, 2007, "[Planned SOA Usage Grows Faster Than Actual SOA Usage](#)" report.

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