WHITE PAPER

Oracle SOA vs. IBM SOA

Customer Perspectives on Evaluating Complexity and Business Value

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A CRIMSON CONSULTING GROUP
BUSINESS WHITE PAPER

Contents

Executive Summary

The Service-Oriented Architecture (SOA) model has become the cornerstone of business computing. Its ability to greatly accelerate the development of business-critical applications promotes business agility, decreases time-to-value and total cost of ownership (TCO), and greatly increases the efficiency and strategic value of IT. Beyond mere application development, it has become the favored approach for solving application and B2B integration issues, and provides a superior foundation for business process management.

However, because SOA implementations tend to be complex, IT decision makers should carefully consider their choice of a SOA platform in terms of its ability to simplify the fundamental development, deployment, and management tasks involved.

To aid in this process, Crimson Consulting undertook a research study for Oracle Corporation to provide a qualitative comparison, based on in-depth customer interviews, of the relative complexity—in terms of development, deployment, and management—of the industry's two leading SOA platforms: Oracle SOA Suite 11g and the corresponding IBM WebSphere, Tivoli, and other SOA-related products (not offered as a suite) needed to supply similar functionality.

The results were consistent across all of the interviews: in general, Oracle SOA Suite is less complex than the equivalent IBM SOA solutions for the major tasks:

- IBM's SOA portfolio comprises many more products than Oracle's SOA Suite, with frequent duplication or overlap of functionality.

- The number of steps involved for fundamental operations tended to be higher for IBM, sometimes dramatically so.

- The amount of time needed for a given operation tended to be higher for IBM—and often, the difference in time was much greater than that between the number of steps.

- Interviewee judgments of operations complexity and the skill level required also favored Oracle SOA Suite.

The primary reason for these advantages appears to be the greater integration and more unified environment of the Oracle SOA Suite, which was noted even by some of the IBM business partners interviewed; the Oracle suite's comprehensive Business Activity Monitoring/Business Intelligence capabilities also play a significant role.

The projects that interviewees had been or were involved with varied too greatly to permit direct comparisons of time-to-value and IT productivity. Nonetheless, analysis of the interview results leads us to conclude that the lesser complexity of the Oracle SOA platform, which simplifies the development, deployment, and management of both applications and integration and business process management projects, offers reduced time to business value and improved IT efficiency compared to IBM's offerings.

"We estimate that Oracle SOA Suite can offer up to a 50-60% labor cost advantage over IBM's SOA product portfolio."

Finally, although the focus of this study was primarily a qualitative judgment of relative complexity we believe that the results also imply a cost of ownership advantage for the Oracle SOA Suite over the multiple IBM SOA products that users must integrate to produce similar functionality. Reduced complexity in terms of the number of steps or time required implies lower labor costs over the life of a solution.

Based on our analysis of the relative number of steps and time required for fundamental integration and SOA operations, as well as other factors discussed below, we estimate that Oracle SOA Suite can offer up to a 50-60% labor cost advantage over IBM's SOA product portfolio.

Introduction

In a Service-Oriented Architecture, a service is a self-contained software program that executes a specific task or set of tasks, such as accessing a database, connecting to a client device, or even communicating with a legacy application. Services can range from something as simple as "get customer address" to an adapter that, in effect, turns an entire legacy ERP solution or even a business partner's parts inventory system into a collection of services. Applications, rather than being impenetrable silos, are now exposed as collections of inherently interoperable services

When used in conjunction with an Enterprise Service Bus (ESB), business process tools, messaging, B2B, and business activity monitoring (BAM), an SOA based platform can replace legacy integration technologies for many customers.

The benefits of a well-constructed SOA are particularly strong if a customer wants to implement business process solutions. That's because once a service is developed, it can be reused to automate many different business processes in multiple applications. The more mature an enterprise's SOA becomes, the more services are available, so that, as one interviewee commented, "eventually what you're doing is orchestrating services you've already developed rather than creating new code." In effect, the marginal cost of additional applications steadily declines over time.

> *"With SOA, eventually what you're doing is orchestrating services you've already developed rather than creating new code."*
>
> Director, Middleware Solutions, Major IT Services Company

Service-Oriented Architecture Benefits

The SOA approach to integration thus offers the enterprise increased business agility, faster time to value, and lower total cost of ownership (TCO). Because individual services tend to be compact representations of manageable "chunks" of business logic, they can be modified very quickly. Developers can rapidly address changing business demands by assembling new applications using a mix of new and existing services.

The bottom line is that IT budgets go farther, IT resources are used more efficiently, and IT productivity increases. Critical operations such as business activity or process management become easier, further increasing the strategic value of IT to the enterprise.

One of the interviewees, the chief architect at a major IT services firm, described a model he'd developed to estimate the benefits of a service-oriented architecture for a typical 100-user application. "It amounts to a 50% improvement in productivity and a 200% improvement in TCO."

> *The project paid off within two months of going live and accelerated our monthly report cycle by over 40%. Frankly, we couldn't have done it at all without Oracle SOA Suite, given our limited budget and resources, but even more significant to me is how our success grabbed the attention of senior management. In an era of generally-declining IT budgets, ours is now up by 35%!*
>
> – Vice President of IT, Property Management Company

Overall, the benefits of a well thought out service-based integration architecture are perhaps best summarized by quoting one of the IT professionals interviewed for this study on which this white paper is based, a vice president of IT at a property management company. His company used Oracle SOA Suite to create a report orchestration workflow system that integrates information from three departments into a unified, detailed 100-150 page property management report that is easily customized for each client.

Choosing a Solution: Judging Relative Complexity

A customer's Service-Oriented Architecture requires many different components to be successful. It is thus imperative that any vendor's SOA products provide a wide variety of tools and capabilities, including an ESB, application integration, BAM, process and orchestration tools, business rules, and SOA management.

"Frankly, we couldn't have done it at all without Oracle SOA Suite… In an era of generally-declining IT budgets, ours is now up by 35%!"

Vice President of IT,
Property Management Company

But a good solution must do more than just provide a collection of tools. These tools have to be put together in a way that makes it easy to develop dynamic and agile solutions. In sum, they need to help simplify their integration and IT, not make it more complex. The fact is, unnecessary complexity in a SOA platform may reduce business agility, increase TCO and time to value, and hamper IT efficiency for a number of reasons, among them:

- More time is required to develop and deploy applications

- Service reuse becomes more difficult

- Complexity tends to increase reliance on professional services

- IT's management burden increases

This makes the relative complexity of SOA solutions an important parameter for IT decision makers. Unfortunately, winnowing out the data needed to compare the solutions under consideration, given the reams of technical and marketing information available, can be a very difficult task.

The best source of such data is the experience of IT architects and implementers who have actually had to deal with SOA complexity. However, because a SOA so closely adapts to business particulars, its overall complexity is quite scenario-dependent, necessitating the development of a framework to make a useful comparison based on these experiences possible.

Crimson Consulting has developed such a framework, described under "A Framework for Measuring SOA Complexity," below. In this white paper, we apply it to the industry's two leading SOA solutions: Oracle SOA Suite 11g and the corresponding IBM WebSphere, Tivoli, and other SOA-related products (not offered as a suite) needed to supply similar functionality.

Methodology and Demographics

Using the framework described below, Crimson Consulting conducted in-depth interviews of eight IT professionals with at least three years' experience of SOA development; all but one had worked on SOA projects for more than five years and several had experience reaching back up to a decade. Three interviewees had worked only with Oracle products, two only with IBM products, and three had experience with both. Table 1 lists their job titles and describes the company they work for.

Table 1: Interviewee Titles and Company Descriptions

Job Title	Company Description
Chief Architect	Global IT services company focused on financial services
IT Consultant	SOA, integration, and middleware consultancy
Director of Strategy and Innovation, Head of SOA Competence Center	Major IT services company serving a wide range of industries
Director, Middleware Solutions	Major IT services company focused on public sector, higher education, and e-commerce; also offers managed services
Infrastructure Solutions Architect	Multi-billion dollar healthcare firm
Senior Architect and Project Manager	Major IT services company focused on telecommunications
Senior Architect, Technology Strategy and Enterprise Architecture	SOA-focused systems integrator serving a wide range of industries
Vice President, IT	Property management firm (portfolio >35 million square feet of commercial properties)

The range of projects these IT professionals had worked on was impressive and illustrates the power of a service-oriented architecture. They ranged in duration from six months to three years (some still ongoing), involving up to 30 developers, for companies with 500 employees up to the Fortune 100, and with software investments topping out at over a million dollars. Table 2 lists some representative projects.

Table 2: Representative List of SOA Projects Interviewees Had Worked On

College loan brokerage platform for a major bank
Health insurance claims processing
Wireless service provisioning for a major telecommunications firm
Financial aid application-to-award automation for a higher-education institution
Integration of real-time smart meter data with back-end systems for a utility company
Hosted composite applications (web front end to integrate disparate information sources)
Web-based e-commerce system for professional uniforms
Forms automation for a public sector organization
Real-time law enforcement information-sharing application coordinating multiple agencies
B2B application integrating 30+ applications to share financial services information
Property management report application offering customized view for customers

A Framework for Measuring SOA Complexity

For this white paper, Crimson Consulting developed a framework that makes it possible to provide a meaningful qualitative measure of the relative complexity of SOA solutions, and even some approximate quantitative data, by considering fundamental SOA operations and roughly quantifying their complexity in terms of such parameters as time, number of steps, and skill level required.

Fundamental SOA Operations

The operations considered in this framework are:

- Set-up: installation, configuration, staging, and deployment.

- Management: setting up a common management console for managing the environment (e.g., starting and stopping components, checking component status, handling production exceptions, building an auditing framework, etc.). The ideal, as in any complex IT system, is a "single pane of glass."

- Security: setting up security for services and configuring security through a mediated gateway (reverse proxy).

- Working with an Enterprise Service Bus (ESB): setting, monitoring, and managing an ESB, changing endpoints in real time, and setting up in-memory caching to enhance performance.

- Working with B2B connections: setting up and configuring B2B servers.

- Connecting to back-end applications: configuring and monitoring back-end adapters. A related question is the availability of adapters for common enterprise applications to avoid custom adapter development.

- Process and business rules development: creating business processes and rules, including modeling, developing, and implementing a mix of system-to-system and human workflows.

- Business Activity Monitoring (BAM): monitoring individual processes to gain business-level visibility of the overall integration.

Complexity Parameters

We judge the degree of complexity of each of the above operations in a given solution using four parameters:

- The number of products involved and their degree of integration

- The number of steps involved to accomplish the operation

- The time required to accomplish the operation

- Respondent ranking of task complexity and skill level required (1-5, 5 being most complex)

The last parameter carries implications for the relative speed of training for a given solution, as well as the availability and cost of trained personnel.

Products Compared

Throughout this white paper we make reference to various products in the Oracle SOA Suite and IBM's portfolio of SOA products. To make the comparison more meaningful, Table 3 provides a representative list of each vendor's SOA products categorized by their function. Not all of these products were mentioned by interviewees.

Table 3: Representative list of vendor SOA products categorized by function

Product Category	Oracle SOA Suite	IBM SOA Portfolio
Process-based integration	BPEL PM	Process Server
Enterprise Service Bus (ESB)	Oracle Service Bus	WebSphere ESB MessageBroker DataPower Transformation Extender Cast Iron Sterling
Services Creation/Development	JDeveloper	WebSphere Integration Developer (WID) Rational Application Developer
Business Activity Monitoring (BAM)	Oracle BAM	WebSphere Business Monitor
Services Management	OWSM	IT CAM for SOA Tivoli Security Policy Manager DataPower
Application Server Runtime	WebLogic Server	WAS ND
B2B	Oracle B2B	WebSphere Partner Gateway DataPower XB60 Transformation Extender
Rules	Oracle Rules	WebSphere Business Rules (In WID and Process Server) ILOG
Adapters/Back End Integration	Oracle Adapters/AIA	WebSphere Adapters
Single SKU suite	SOA Suite	WebSphere Business Services Fabric
Complex Event Processing (CEP)	Oracle CEP	WebSphere Business Events

The Oracle Advantage: Simplifying IT

In this section we look at each operation and compare Oracle and IBM based on the four parameters discussed above. The discussion is necessarily generic, since the project scenarios interviewees with which were involved differ widely, but useful comparisons can nonetheless be made, especially where interviewees had experience of both Oracle and IBM SOA solutions. Where possible, we will supply simple quantitative tables to facilitate understanding, with the caveat that the numbers involved are based on the experience of interviewees with specific, incommensurable projects, and therefore cannot be taken as more than a general indication of the difference between the two platforms.

General Observations

Interviewees were generally satisfied with whichever of the SOA solutions they were using. This is not surprising: both vendors have expended enormous effort in developing their products, and interviewees had invested many years in developing their expertise with the chosen vendor's SOA solution. Nonetheless, the study results were fairly consistent

"IBM solutions tend to be more complex than Oracle."
Chief Architect, Global IT Services Company
(IBM Business Partner)

for each of the four complexity parameters: Oracle SOA Suite was judged less complex, even by IBM users or business partners.

Number of Products

As even a cursory look at Table 3 will reveal, there is no doubt that IBM's SOA portfolio comprises many more products than Oracle's SOA Suite, with frequent duplication or overlap of functionality. The result, as noted by the healthcare infrastructure solutions architect, an IBM user, is that "people are confused about which IBM products to use," which will naturally tend to increase time-to-value and increase reliance on professional services or more-expensive in-house expertise, thus driving up labor costs.

This was the case for virtually every operation considered; it was especially noted for working with an ESB, setting up a management console, and, of course, for initial set up and configuration. The chief architect at global IT services company, who expressed a strong preference for IBM, actually noted that "IBM solutions tend to be more complex than Oracle." He noted in particular the poor integration of Tivoli management products into the WebSphere stack, Oracle's better-integrated business intelligence, and the integration of Oracle Enterprise Manager as examples. This means that, in general, an Oracle SOA solution will take less time to implement, because, by contrast to IBM, the products are already integrated into a suite.

Number of Steps

Overall, the number of steps involved for fundamental operations tended to be higher for IBM, sometimes dramatically so. Although there were cases noted by some interviewees in which an operation took fewer steps for IBM, in those cases, the difference was almost never large. For instance, the senior architect mentioned above noted that with IBM "you need to deploy each product separately," deployment being an operation where the difference was quite notable due to Oracle's suite approach to SOA.

Time Required

Likewise, the amount of time needed for a given operation tended to be higher for IBM—and often, the difference in time was much greater than that between the number of steps. One clue to a possible reason for this seeming discrepancy lies in the fact that Oracle interviewees often equated "steps" with "clicks." When discussing SOA operations in IBM, no interviewee ever spoke in terms of "clicks." This implies that for IBM users, "steps" generally involved more complex clusters of activities, so that each step took more time. The difference in number of steps and the time required for fundamental SOA operations has major implications for the relative labor costs of the two solutions.

Skill Level Required and Task Complexity

Interviewee judgments of operations complexity and the skill level required also favored Oracle SOA Suite. Overall, the consensus was that it took more SOA experience to quickly accomplish tasks in IBM than in Oracle, especially "out of the box." For instance, the director of middleware solutions (an Oracle business partner) noted that when it came to Oracle SOA Suite installation and configuration, "I've had lots of people new to SOA Suite pick it up and figure it out in a day or so." No similar comment was made about IBM products. This implies higher IT personnel and training costs for IBM solutions compared to Oracle SOA Suite.

> *"I estimate that IBM generally requires 30% more professional services involvement than Oracle."*
> Infrastructure Solutions Architect, Multi-Billion Dollar Healthcare Firm (IBM User)

The architect at a multi-billion dollar healthcare company offered a quantitative estimate of an important consideration regarding the higher skill level required for IBM SOA products: "I estimate that IBM generally requires 30% more professional services involvement than Oracle." Much of

this professional services differential is probably caused by the difficulty customers have in deciding which of the products in IBM's extensive portfolio should be used in a given project, and how to integrate them, compared to the all-in-one, already-integrated approach of the Oracle SOA Suite. This too can have a major impact on solution TCO, as well as time-to-value.

Setting Up the SOA Solution

Overall, the interview results indicate that setting up and configuring an IBM SOA solution takes at least twice as many steps as Oracle SOA Suite; the difference in the time required tends to be even greater. The IT consultant estimated Oracle set-up time at 4-6 hours, compared to 3-4 days for IBM.

Interviewees with IBM experience noted the impact on setup time of the multiple products required; as the chief architect at an IBM business partner noted, "I think of it as having to go the extra mile to get more features, but on the whole, IBM installation tends to be a long process, and the number of steps required is very high."

By contrast, those with Oracle experience noted the greater simplicity of Oracle SOA Suite implementation. For instance, the head of the SOA competence center at an Oracle business partner described the process in terms of a "single-click installer" and noted that the configuration is not much more complicated, depending on the components that will actually be used. "We generally allow one day to set up a

> *"We estimate Oracle set-up time at 4-6 hours, compared to 3-4 days for IBM."*
>
> Head of SOA Competence Center, Major IT Services Company

single node, and two days for a cluster—that includes the OS, the database, and all the middleware." He also called out the comparative ease of updating an Oracle SOA environment: "Oracle works with patch management, so patches are simple updates."

The director of middleware solutions said of Oracle SOA Suite that "for a development environment I can do the setup in an afternoon, but for a QA or production environment, you're looking at about a week, because of clustering and other things." The difference in deployment time (the transition from a development environment to a production environment) was not as dramatic, with most interviewees giving similar estimates of the time involved, although the outliers were on the side of less time for Oracle and more time for IBM. The one exception to this was the head of SOA competence, who described Oracle deployment as "practically pre-automated: simply create a composite and ask for a deployment."

Table 4 offers a rough comparison of set-up times for selected components, based on the responses of two of the interviewees experienced with both IBM and Oracle (the third interviewee with cross-vendor experience estimated similar times for both solutions).

Table 4: Representative set-up times for selected components

Component	Chief Architect		IT Consultant	
	Oracle	IBM	Oracle	IBM
Management	1 week	1 month	1 day	3 days
ESB	1 day all together	2 days	"couple of minutes"	1 day
Process/Rules		Half day	2-3 hours	2-3 hours
Modeling[1]		1 hour	Not stated	
B2B[2]	Not stated		< 2 hours	6 hours

[1]IDE: IBM Eclipse vs. Oracle JDeveloper   [2]Outlier: other responses indicated more time for IBM than Oracle

Management

Interviewees all viewed SOA and enterprise management as having a big impact on virtually every SOA operation, and thus on overall IT efficiency and strategic value. Our study clearly shows that management stands out as a major advantage of Oracle SOA Suite, with interviewees universally agreeing that Oracle offers a much more integrated approach and simpler management.

> *"Oracle Enterprise Manager offers an excellent, uniform management UI not only for all the SOA components, but for other parts of our infrastructure such as the ERP and database, which greatly simplifies overall administration. Moreover, it worked pretty much out of the box."*
>
> Vice President of IT, Property Management Firm

Oracle users were universally enthusiastic about Oracle Enterprise Manager. For instance, the SOA competence center head said, "Oracle Enterprise Manager is the killer feature of SOA Suite. It combines everything into a single view and makes debugging a complex project much easier." The VP of IT at the property management firm commented that "Oracle Enterprise Manager offers an excellent, uniform management UI not only for all the SOA components, but for other parts of our infrastructure such as the ERP and database, which greatly simplifies overall administration. Moreover, it worked pretty much out of the box."

Among those interviewees with IBM experience, there was near-universal agreement that much of the difficulty with IBM lay in the lack of integration of the Tivoli products required to manage an IBM SOA environment, and the resulting difficulty in creating a unified view of the SOA infrastructure.

The comments from two IBM users are illustrative of the overall perception of the effort involved in setting up a common IBM management console. The healthcare infrastructure solutions architect noted that "IBM management is difficult because it involves a lot of products, like Candle and Netcool, that are acquisitions and not tightly integrated." The chief architect said that "the Tivoli products needed to manage a SOA implementation are not well integrated into IBM's WebSphere stack, in contrast to Oracle, whose Enterprise Manager product is very well integrated into their SOA solution. The result is generally better governance and security with Oracle.

> *"The Tivoli products needed to manage a SOA implementation are not well integrated into IBM's WebSphere stack, in contrast to Oracle, whose Enterprise Manager product is very well integrated into their SOA solution. The result is generally better governance and security with Oracle."*   – Chief Architect, IBM business partner

Security

Security, too, was generally more complex for IBM than for Oracle; only one interviewee indicated otherwise, but under special circumstances. Again, much of this was due to the limited integration of IBM products: as the senior architect at the SOA-focused IBM business partner noted, "every IBM product has its own security." IBM security operations will thus require more training to learn disparate tools, and more effort to get the various security components to work together.

> *"For one project in particular, Tivoli was not granular enough to provide security in a robust manner."*
>
> Chief Architect, Global IT Services Company (IBM Business Partner)

The clearest comparison of IBM and Oracle came from the chief architect at the global IT services company, from his experience of both products, as illustrated in Table 5.

Table 5: Comparison of IBM and Oracle Security Effort

Operation	Steps		Time		Complexity/Skill	
	Oracle	IBM	Oracle	IBM	Oracle	IBM
Set up general security	10-12	20-40	2-4 weeks	2-3 months	3	5
Set-up services security through a mediated gateway set up	< 12	20-25	< 1 week	1 month	3	4.5

This interviewee also commented that "setting the security of services in IBM is a static process" and noted that for one project they had to recommend a non-IBM solution for security: "For one project in particular, Tivoli was not granular enough to provide security in a robust manner."

"When it comes to SOA security, virtually everything can be handled through Oracle Enterprise Manager; you don't have to deal with a lot of different products."

Director, Middleware Solutions,
Major IT Services Company

The one interviewee whose experience of IBM security was more positive, the healthcare infrastructure solutions architect, had used the DataPower appliance, which he said made security easier in general. However, he complained about the extreme expense involved and its lack of scalability, and noted that "DataPower expertise is hard to find." This issue, of course, raises the cost of ownership since it mandates more reliance on professional services and more training for staff to handle ongoing management.

By contrast, interviewee comments on Oracle security were generally quite positive and emphasized simplicity; again, due in large part to the Oracle SOA Suite's integration. The general consensus can be conveyed in a single quote from the director of middleware solutions: "When it comes to SOA security, virtually everything can be handled through Oracle Enterprise Manager; you don't have to deal with a lot of different products."

Working with an Enterprise Service Bus

An Enterprise Service Bus is the nerve center of a SOA implementation, the means through which services cooperate to provide application functionality. Ease of ESB implementation and management are critical to SOA success, especially as this is an area where much of the fine tuning of a SOA application takes place. This is another area where the integration of the Oracle SOA Suite appeared to offer simpler operations than the less integrated IBM product portfolio.

As shown in Table 3, IBM offers six different products that provide some degree of ESB functionality, again leading to customer confusion and a greater reliance on professional services. For an IBM implementation, interviewees most often identified Tivoli IT CAM as the product needed for ESB management. The chief architect at the global IT services company spoke of IBM as

"With IBM ESB, you have to set up the cache manually, add it to the class path, and then configure the cache itself, which is a multi-step process."

IT Consultant with both IBM
and Oracle Experience

offering three different ESBs, and noted that for caching one needed to add the DataPower appliance, or eXtremeScale. The IT consultant commented that "with IBM ESB, you have to set up the cache manually, add it to the class path, and then configure the cache itself, which is a multi-step process." His experience with both solutions led to the complexity estimates shown in Table 6.

Table 6: IT Consultant Estimates of ESB Effort, Oracle vs. IBM

Operation	Steps		Time		Complexity/Skill	
	Oracle	IBM	Oracle	IBM	Oracle	IBM
ESB	2	30+	"a couple of minutes"	1 day	1.5	5

By contrast, two of the interviewees with Oracle experienced expressed how simple ESB setup and management are. The head of the SOA competence center noted that there was no setup at all needed for monitoring the ESB, since that is handled through Oracle Enterprise Manager, and that implementing caching was basically "just a checkbox." (In Oracle SOA Suite, caching is built in as the Coherence in-memory data grid, which can be configured through Oracle Enterprise Manager, as can any other aspect of ESB configuration, operation, or debugging, using the same unified view as available for all other components.) He also commented on how easy it was to manage endpoints in real time.

The VP of IT for the property management firm said that "Oracle ESB setup, monitoring and management is straightforward and well-documented, and we find features like automated service switching and pooling for real-time changes particularly useful."

> *"Oracle ESB setup, monitoring and management is straightforward and well-documented, and we find features like automated service switching and pooling for real-time changes particularly useful."*
>
> Vice President of IT,
> Property Management Firm

Working with B2B Connections

Unfortunately, there was not a great deal of B2B experience among the IT professionals interviewed for this study, limiting our ability to qualify the difference between the two vendors. Our limited sample did reveal a slight advantage in the time and number of steps required to set up B2B servers in Oracle as compared to IBM.

We found that no IBM interviewee had a clear sense of just how many IBM products offered B2B connection functionality. The two most often referred to were DataPower and WebSphere Partner Gateway. Again, this is an example of the perceived complexity caused by the lack of integration in the IBM product portfolio. The IBM-experienced interviewee with the most B2B experience (who also had experience with Oracle) contrasted the multiplicity of IBM products with the simplicity of Oracle SOA Suite with its built-in B2B functionality.

Connecting to Back-End Applications (Adapters)

The opinions about using either solution to integrate or connect to back-end applications were fairly "partisan" and difficult to draw conclusions from. In general, those with experience of only one vendor's solutions spoke highly of the simplicity of that solution, while the three interviewees experienced with both did not contrast them very strongly, with one exception: the chief architect. Even though he had commented at the beginning of the interview that IBM was more complex overall than Oracle, he stated that in his experience, working with back-end adapters had been more complex with Oracle than with IBM.

However, this is difficult to square with the reports of interviewees experienced only with Oracle, more of whose projects seem to have been concerned with, or involved more integration of back-end applications. For instance, the VP of IT at the property management firm, whose application was very much about integrating multiple back-end applications, spoke glowingly to the Oracle solution. "Oracle SOA suite has a great tool set available that makes it easy to set up and configure the integration of back-end applications; for instance, J.D. Edwards, which is critical for us, and both Oracle and Microsoft databases."

The director of middleware solutions, whose company offers managed "composite" applications that integrate multiple customer back-end applications into a single web UI, was even more enthusiastic. "One thing that is great about Oracle SOA Suite is that its built-in technology adapters—for things like relational databases, email, etc.—are powerful enough that for pretty much every one of our implementations we find we don't need expensive vendor-specific adapters."

> *"One thing that is great about Oracle SOA Suite is that its built-in technology adapters – for things like relational databases, email, etc. – are powerful enough that for pretty much every one of our implementations we find we don't need expensive vendor-specific adapters."*
>
> Director, Middleware Solutions,
> Major IT Services Company

Business Process and Rules Development and Management

Organizing services into business processes and workflows and coordinating them using business rules is fundamental to SOA development. Our interviews indicate that in general, this is easier in the Oracle environment, although the time and number of steps did not differ as dramatically as for some other tasks.

We ascribe this result primarily to the same lack of integration mentioned when discussing other SOA operations. Interviewees experienced with IBM noted the complexity of IBM solutions for business process and rules development and management in terms of the multiple products offered for these tasks, and there were the usual multiple-choice responses about which products should be used. For instance, the healthcare infrastructure solutions architect commented that "IBM has three separate products available for rules: IBM Business Rules, ILOG, and WebSphere Rules," while the chief architect mentioned ILOG, FileNet, and the recently-acquired Lombardi (now part of WebSphere Lombardi Edition). Apparently, once the appropriate tool is chosen, IBM users find it not too complex, so that the implied cost-of-ownership disadvantage of this multiplicity of products perhaps lies more in implementation costs and a greater reliance on professional services.

> *"Our application involved reengineering a central business process from end-to-end, which involved both human and system-to-system workflows. JDev, part of Oracle SOA Suite, was the only IDE we needed to manage and code this, rules, processes, and all."*
>
> Vice President of IT,
> Property Management Company

By contrast, Oracle SOA Suite has one business rules designer and one rules engine, both already an integrated part of the stack and available both for development and monitoring operations. The VP of IT at the property management firm described it as a "very powerful toolset" and commented that "our application involved reengineering a central business process from end-to-end, which involved both human and system-to-system workflows. Oracle JDev, part of the SOA suite, was the only IDE we needed to manage and code this, rules, processes and all." The head of the SOA competence center noted that "Oracle's Service

Component Architecture (SCA) allows a single view of all processes, which makes monitoring much easier."

Business Activity Monitoring

Business Activity Monitoring (BAM) is an event-driven operation that provides real-time information via dashboards. It not only allows business users to understand application activity in terms that are important to them (e.g., tracking a purchase order from submission to shipment), but also gives IT the ability to spot bottlenecks, fine tune composite applications, and in general assure that applications are efficiently supporting business needs. Our interviews revealed that for the most part, Oracle enjoys an advantage over IBM in BAM in terms of simplicity and easier implementation and use, although the complexity metrics were generally not greatly different.

"With Oracle's BAM, the customer has great insight into their business, since BI is a well-integrated part of Oracle SOA Suite. They get business activity data in minutes that used to take two weeks for report generation."

IT Consultant with both IBM and Oracle Experience

One exception to this was the chief architect (an IBM user), who had commented that "IBM's BAM is not the greatest in terms of functionality; Oracle's BAM is very evolved, and quite well integrated with Business Intelligence (BI) ," implying that more effort is required with IBM to gain the business insight delivered by business activity monitoring. Perhaps on account of this lower functionality, he put the number of steps and time required for IBM BAM implementation much lower than for Oracle.

This is consistent with the fact that IBM's BAM requires two products (both acquired): WebSphere Business Events and WebSphere Business Monitor, as well as fairly extensive customization, which makes it more expensive to gain the business insight promised by BAM. The senior architect at the SOA-focused IBM business partner commented that "WebSphere Business Monitor is a very sophisticated product, but we have found very few companies able to use it to best advantage. I have seen it lying on the shelf, since it requires very high integration skills."

"Oracle SOA Suite is a very-well integrated solution that provided the customer with a much faster time to value."

IT Consultant with both IBM and Oracle Experience

This integration was called out by most of the interviewees experienced with Oracle. The IT consultant, speaking about a project integrating more than thirty applications to share financial services information said that "with Oracle's BAM, the customer has great insight into their business since BI is a well-integrated part of Oracle SOA Suite. They get business activity data in minutes that used to take two weeks for report generation. That means they can respond much faster to financial events—increased business agility is a big deal for them."

Business activity dashboards are also critical for enabling line of business managers to monitor Key Performance Indicators (KPIs), which also contributes to business agility. The director of middleware solutions at a major IT services company commented that "It's fairly easy to configure dashboards in Oracle BAM, and you can also use it to look at the backend database and other products outside of Oracle SOA Suite."

Summary and Conclusions

Overall, Crimson Consulting believes that our primary research demonstrates a definite advantage for Oracle SOA Suite over IBM SOA solutions in terms of reduced complexity, while still offering comparable or superior capabilities, as indicated by the equivalent scope of projects cited by interviewees for both the Oracle and IBM products. We found that, in general, Oracle SOA Suite requires fewer steps and less time for fundamental operations. We conclude that Oracle's more unified suite will deliver greater business agility, faster time-to-value, and increased IT efficiency, as well as contributing to a lower cost of ownership. It's noted by the director of middleware solutions at a major IT services company: "Oracle SOA Suite gives us greater agility since it keeps customization to a minimum with a common interface."

The interview results indicate that in large part, this advantage results from the superior integration of Oracle SOA Suite, which was acknowledged by both Oracle and IBM users. A comment by the IT consultant underscores this point: "Oracle SOA Suite is a very-well integrated solution that provided the customer with a much faster time to value."

> *"Oracle SOA Suite gives us greater agility since it keeps customization to a minimum with a common interface."*
>
> Director, Middleware Solutions,
> Major IT Services Company

Oracle also offers a cohesive experience across all aspects of a service-oriented architecture, from development to deployment to management, thus improving IT productivity. For instance, the head of the SOA competence center interviewed for this study stated "With Oracle SOA Suite, you can develop, execute, monitor, and manage a process with a single solution, rather than multiple products."

In general, we also found that IBM products required a higher skill level than Oracle products. This will have an impact on the labor cost of SOA implementations by increasing training and personnel costs and tending to increase reliance on professional services. As noted earlier, one interviewee estimated that IBM solutions require 30% more professional services involvement than Oracle.

The bottom line, of course, is business value. We believe that the interview results discussed throughout this white paper clearly support the conclusion that Oracle SOA Suite offers better business value. The senior architect at a major IT services company focused on telecommunications, underscored this point when he said that "the reduced complexity of Oracle SOA Suite definitely helps us deliver better business value."

Finally, although the focus of this study was primarily a qualitative judgment of relative complexity, we believe that the results also imply a cost of ownership advantage for the Oracle SOA Suite over the multiple IBM SOA products that users must license separately and integrate to produce similar functionality. Reduced complexity in terms of the number of steps or time required implies lower labor costs over the life of a solution.

> *"The reduced complexity of Oracle SOA Suite definitely helps us deliver better business value."*
>
> Senior Architect,
> Major IT Services Company

We also note that other data from this study, such as the greater dependence of IBM solutions on professional services and a more expensive skill set, also imply a higher labor costs for the IBM SOA platform.

Based on our analysis of the relative number of steps and time required for fundamental integration and SOA operations, as well as other factors discussed, we estimate that Oracle SOA Suite can offer up to a 50-60% labor cost advantage over IBM's SOA product portfolio.

About Crimson Consulting

We help executives achieve market leadership.

Crimson is a management consulting firm focused on marketing. Our clients include Adobe, Cisco, eBay, Hitachi, HP, IBM, Intel, Microsoft, Oracle, SAP, Seagate, Symantec and Verizon. We are experts in the marketing of technology solutions

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