IBM, Microsoft, Oracle and SAP have complex technology strategies. Each vendor’s strategy toward service-oriented architecture (SOA) governance, a discipline whose technologies and methodologies will permeate every SOA deployment, will be key to the continued success of each vendor.

Key Findings
- Each vendor has a partnership with a least one third-party vendor.
- Acquisitions remain just as important to these vendors’ strategies as organic growth.
- Each vendor has to act proactively to dispel the notion of a proprietary set of SOA governance technologies.

Recommendations
- Growth of SOA governance technologies is not limited to one style or approach to the technologies. These offerings support the management of the life cycle for software services. Governance is a larger issue than just operational management through registries or policy or quality assurance. However, the market growth has most often occurred around these specific technology capabilities. Customers seeking to start an SOA project should demand that potential vendors demonstrate support for registry/repository and policy management, at a minimum, to ensure proactive governance of service can begin at project inception.

ANALYSIS
From a technical perspective, SOA governance remains complex. Many vendors are repositioning technologies to address functionality required by companies deploying even the most modest of SOAs. In “Criteria for Evaluating a Vendor’s SOA Governance Strategy,” Gartner identifies 10 key criteria to consider when making evaluation, purchasing and deployment decisions about SOA governance technologies. In this research, Gartner identifies some of the most essential and requested criteria and examines how four major vendors – IBM, Microsoft, Oracle and SAP – address the criteria.

1.0 Service Registry/Repository, Provisioning and Federation
1.1 IBM
IBM offers its WebSphere Service Registry and Repository (WSRR) in conjunction with Rational Asset Manager for overall portfolio management. IBM built WSRR from “scratch,” as opposed to acquiring it; the product does not support Universal Description, Discovery and Integration (UDDI) or electronic business XML Registry. IBM offers a UDDI registry with WSRR (part of the WebSphere Application Server) and a framework for UDDI registry integration and synchronization. Looking past the standards support issue, WSRR supports service, process and policy life cycle management via integration with Rationale, Datapower, Weblayers,
Oracle’s strategy for federating registries and repositories is defined within Oracle’s MDS. The resulting product set is a key underlying component of the Oracle Fusion Middleware product set allowing users to reference SOA artifacts, create relationships between them and manage their various life cycles from the same viewpoint. Also, the services and processes associated with any application deployed on Oracle Fusion Middleware are automatically registered and managed. Oracle promotes its SOA governance technologies as part of the larger Oracle Fusion Middleware offering, but not as individual components. Some components, such as Oracle Web Services Manager (OWSM), are available separately and can provide governance for Oracle and third-party applications. Oracle Applications Unlimited users should consider the Oracle Service Registry and related SOA governance capabilities (embedded in Oracle SOA Suite or as options). Before the availability of Oracle Fusion Applications, Fusion Middleware customers and Oracle Applications users can take advantage of the unified approach to registry and metadata within Oracle MDS. Users with SOA governance technologies, such as policy enforcement, can still leverage Oracle’s registry/repository technologies because they have been designed for interoperability.

1.4 SAP
SAP’s Enterprise Service Repository (ESR) is relatively unknown outside the SAP applications user community, but has full SOA life cycle management capability, support for SAP’s integrated service environment and policy management tools, and is the epicenter of SAP’s SOA development, infrastructure and governance solutions. Of tremendous value to users is the capability of ESR to integrate various aspects of the organizational and planning aspects of SOA governance. Organizations can leverage the ESR to address issues such as SOA asset identification (which services, processes and policies need to be assembled or created, granularity, ownership and chargeback). ESR is a misnomer because the product has full service registry functionality support for UDDI. In an SAP Business Application environment, this solution should be shortlisted and can be considered in a heterogeneous business application environment. However, users in the latter scenario cannot take advantage of the presence of SAP specific mechanisms and processes. Technically, SAP ESR can be deployed in non-SAP environments, but Gartner hasn’t seen it, and would not expect to see many examples of this nature.

2.0 SOA Policy Management and SOA Monitoring

2.1 IBM
IBM’s Datapower provides policy enforcement and can integrate with most security policy administration tools. The technology can also support some aspects of performance management. Policy governance, which includes some aspects of creating new policy, integrating existing policy and managing the life cycle of the overall policy, is accomplished using multiple technologies, including Datapower, WSRR, Rational and technology partner Weblayers. Management and monitoring are symbiotic, but the same technologies used for management may not address the
challenges of monitoring, specifically because monitoring will likely be deeper integrated with system management technologies. In the case of IBM, Datapower and ITCAM have been integrated to provide real-time monitoring and integration into the larger Tivoli suite of system management technologies. IBM’s strategy is adequate, but we suggest clients consider integrating these technologies with a third-party policy enforcement solution primarily focused on the various disciplines of performance, availability and capacity planning.

2.2 Microsoft
Microsoft partners with AmberPoint and SOA Software for SOA policy management, SOA monitoring and agent-based policy enforcement. Some policy management disciplines, such as creation and integration, can be done in the operating system and new incarnations of Microsoft applications as part of the Windows Communication Framework. This is a viable solution if the SOA domain is exclusively Microsoft. Technology partners, interoperable standards and specifications are used and encouraged in heterogeneous environments; however, some of these specifications are not mature enough for mission-critical deployments. Monitoring within a Microsoft environment can be also accomplished by Systems Center Operations Manager. Because the WCF is consistent through the Microsoft portfolio, Microsoft has simplified SOA governance within a Microsoft environment, essential for enabling small and midsize businesses. In more heterogeneous environments, Gartner has seen many deployments with HP Systinet, AmberPoint, Cisco Reactivity and other SOA governance technologies.

2.3 Oracle
When Oracle acquired Oblix, which acquired Confluent (a policy management solution), it rebranded it OWSM. OWSM has policy enforcement and policy governance technologies. Integrated with Oracle BPEL Process Manager, OWSM can also enforce process governance policies around reuse, certification and granularity. OWSM is available stand-alone or as part of Oracle SOA Suite, providing policy enforcement and monitoring at the container or app server. OWSM is integrated with Oracle Enterprise Manager (EM), which provides a holistic management view into Oracle infrastructure and business applications. For clients using Oracle Applications or Oracle Fusion Middleware, OWSM and Oracle EM have the out-of-the-box functionality needed for quick SOA governance technology deployments in an Oracle environment.

2.4 SAP
SAP partners with AmberPoint for policy enforcement use the ESR for overall policy governance and life cycle management. Consistent with its overall SOA governance technology strategy, SAP’s goal is to ensure that every business application and related set of services and processes are natively integrated with its policy management technologies. For the management and monitoring of the services and infrastructure partner technology from AmberPoint, BMC and CA (Wiley Introscope) along with SAP’s own Netweaver Administrator are integrated with the ESR. SAP clients will benefit from the out-of-the-box functionality and SAP NetWeaver Administrator and AmberPoint can be leveraged along with SAP ESR for support for heterogeneous business application environments and SOA Governance technologies.

3.0 SOA Quality Assurance, Testing and Validation
Consider third-party technologies from vendors such as ITKO and Mindreef, with functionality that can validate during runtime the integrity, data, identify and impact of the consuming artifact.

3.1 IBM
IBM’s Rational Tester for SOA Quality, in conjunction with the WSRR, offers testing and validation using information gleaned from Datapower and ITCAM. IBM needs to address the issue of the adoption of Web 2.0 technologies and its impact on a company’s SOAs.

3.2 Microsoft
Microsoft provides testing and validation within its development technologies. Although System Center Operations Manager (SCOM) adheres to the WCF and can share information with testing tools, it is not clear whether Microsoft promotes this as a best practice and offers this functionality out-of-the-box. Any artifacts created with Microsoft technologies would supposedly be guided best practices around managed code. Microsoft needs to address the issue of the adoption of Web 2.0 technologies and its impact on a company’s SOAs.

3.3 Oracle
Oracle JDeveloper provides testing and validation for quality assurance and leverages Oracle’s management and monitoring solutions for:
- Real-world metrics and conditions on which to create tests and filters for validation
- Integration into the larger set of SOA governance technologies offering, for instance, the ability to discover and browse available artifacts in the Service Registry or the SOA Repository.

Oracle needs to address the issue of the adoption of Web 2.0 technologies and its impact on a company’s SOAs.

3.4 SAP
SAP includes testing and validation as part of its application life cycle management strategy and SAP Solution Manager can integrate information related to testing and validation with the ESR. SAP needs to address the issue of the adoption of Web 2.0 technologies and its impact on a company’s SOAs.

4.0 Ecosystem, Partnership and Interoperability Strategies
Companies can take multiple approaches to working with third-party technology vendors, ISVs, or professional service providers. Some vendors even go as far as to implement their own frameworks and define their own specifications on how best to interoperate with their technologies. The vendors covered in this research have extensive communities of partners and providers. They all work to certify that they are compliant to specifications that ensure interoperability of governance mechanisms. Sometimes, however, having a community and certification process is not enough, especially when many of the vendors that can have the most innovative and requested SOA governance technologies can participate in the certification processes.
4.1 IBM
The IBM SOA Business Catalog has a complete listing of partners that provide IBM-enabled SOA governance technologies; provide services to help companies integrate their existing SOA governance investments with the set of IBM SOA governance technologies. IBM also partners closely with AmberPoint, Mindreef and SOA Software for various SOA governance technologies. Also, all aspects of IBM’s SOA governance technologies are available to any partner in IBM’s ecosystem. When do we use SOA Software vs. using Datapower? When do we use Mindreef vs. Rationale? These questions perplex IBM users. In this case, the answer to both questions is you would use both, depending on the project. Having partners with competing technologies is never an easy thing; especially when the technologies can be complementary.

4.2 Microsoft
Microsoft’s Partner Programs offer a way for third-party vendors and service providers to develop, test and market solutions that interoperate with WCF and the rest of the Microsoft portfolio. AmberPoint and SOA Software are good examples of certified partners that have become more strategic with Microsoft; offering fully policy management for many Microsoft products and free policy enforcement agent technology, in the case of AmberPoint, bundled with Visual Studio. WCF is an integral part of the new suite of integrated development environment and integrated service environment solutions from Microsoft and developing or enhancing governance solutions with these products helps enable interoperability. Not all third-party SOA governance technologies will incorporate WCF, and the fallback plan to use standards is limited at best, given the current state of interoperability standards. In this scenario, consider Microsoft technology partners.

4.3 Oracle
Because SOA governance is woven throughout the entire Oracle Fusion Middleware portfolio, the Oracle Partner Ecosystem can leverage Oracle’s SOA governance functionality. Oracle partners with HP/Systinet and, as mentioned earlier, offers a “pluggable” architecture for easily integrating third-party technologies. In including SOA governance “everywhere” in its Fusion Middleware portfolio, and based on its focus on interoperability, Oracle customers can choose among its embedded governance capabilities, third-party solutions or a combination of both. Unfortunately the embedded governance capabilities some Oracle customers mistakenly believe that they have to choose are either all or nothing.

4.4 SAP
Messaging around the relationship between SAP and AmberPoint is slowly reaching existing and potential SAP customers. SAP is wisely bundling that message with a larger SOA marketing campaign. The ubiquity of SAP applications has always fostered a submarket for integration and management solutions, and SOA governance should be no different. Although SAP partners with AmberPoint and SOA Software, SAP should continue to encourage additional third-party governance technologies to participate in its partner programs to help push its heterogeneous, “not just for SAP” message about middleware and governance.

Acronym Key and Glossary Terms

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<th>Acronym</th>
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<tr>
<td>EM</td>
<td>Enterprise Manager</td>
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<td>ESR</td>
<td>Enterprise Service Repository</td>
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<td>OWSM</td>
<td>Oracle Web Services Manager</td>
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<td>SOA</td>
<td>service-oriented architecture</td>
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<td>Universal Description, Discovery and Integration</td>
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<td>WCF</td>
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