

A financial services company uses Progress® Actional® for Web service control, better governance, and distributed SOA management.



CASE STUDY

CHALLENGE

Bring services under control; enable service rationalization and greater reuse

SOLUTION

Progress® Actional® Web services and SOA management solutions

RESULTS

- > Automatic service discovery without coding or configuration—providing visibility into runtime services and their use
- > Improved enterprise integrity through end-to-end SOA management and security
- > Support for high-transaction volume through use of distributed SOA management architecture

LESSON LEARNED

Start with Web services management and SOA governance and take an incremental approach to get services under control

GETTING AN EDUCATION IN SOA

A U.S. financial services company with a focus on providing student loans and administering college savings plans had developed a services-oriented architecture (SOA) infrastructure that connected its Web interfaces for customers to back-end, mainframe loan-origination and loan-servicing systems. On peak days, the infrastructure processed 14 million transactions. To fully leverage this SOA investment the company wanted to expand access to local IT centers and to retool its infrastructure for better long-term manageability.

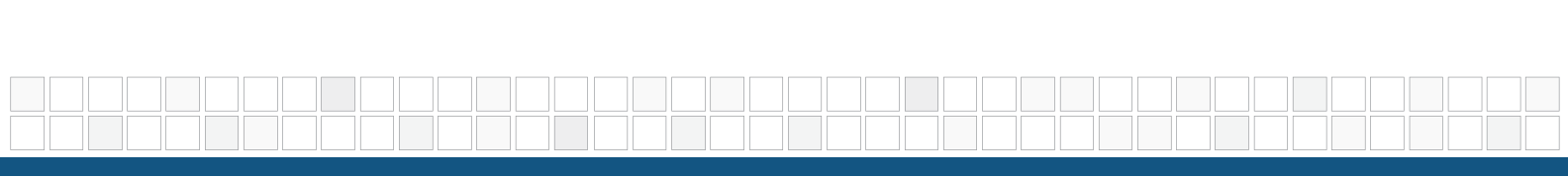
The existing infrastructure lacked runtime service management and a registry/repository for SOA governance. As a result, corporate IT developers had no way of knowing what services existed and so created redundant services. Access to services was all or nothing. Central IT developers could create dependencies among services with no approvals. Distributed IT development groups across the U.S. were not allowed to access the centrally managed corporate services in their applications: without service management, there was no way to ensure safe access and enterprise integrity. So they created their own local solutions with overlapping capability.

“Everything was done one-off, rather than going through a standard process,” says the senior technical architect. “We weren’t enabling the business to do things it wanted to do. People got used to waiting for new functionality.” Business agility suffered due to slow time-to-market for new functionality, and there were high IT costs.

To address these issues, in 2007 the company embarked on an initiative to retool its SOA infrastructure, convert legacy services to Web standards, and reduce its portfolio to one service per function. Goals included cutting development time and increasing service reuse—for benefits such as lower operational costs and greater business agility. The company decided to focus on Web service management and SOA governance first and then use this as a foundation to build toward an enterprise services infrastructure that would factor out common logic for transformation, orchestration, and other forms of mediation.

PROGRESS ACTIONAL DISCOVERS SERVICES NEEDING GOVERNANCE

The company chose Progress® Actional® SOA management software in addition to a standards-based service registry. This gave the company the two most important elements to control the lifecycle of services in its environment. The senior technical architect explains: “You can’t govern until you know what you have. Actional provides the discovery and visibility we need to catalog all our existing services in the registry. We can put governance firmly in place and tackle service rationalization.”



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— Senior Technical Architect

Service Discovery—without Coding or Configuration

Actional automatically discovers services in the runtime environment—without coding or configuration—producing flow maps that show services interdependencies in end-to-end SOA processes and information on service usage. This capability enabled the company to “put its arms around services” while minimizing development time.

Actional’s tight integration with registries helps close the loop between design and runtime environment, allowing control over “rogue” services that are not registered. Actional puts force behind the policies in the registry and insures only authorized use of services is permitted. Through this integration, Actional can also discover and interrupt unauthorized or “rogue” services which can cause system overloads or, even worse, expose sensitive data to unauthorized users. These capabilities—discovery and cataloging of all services—lay the foundation for broader governance of the IT environment.

High-Performance and Scalability

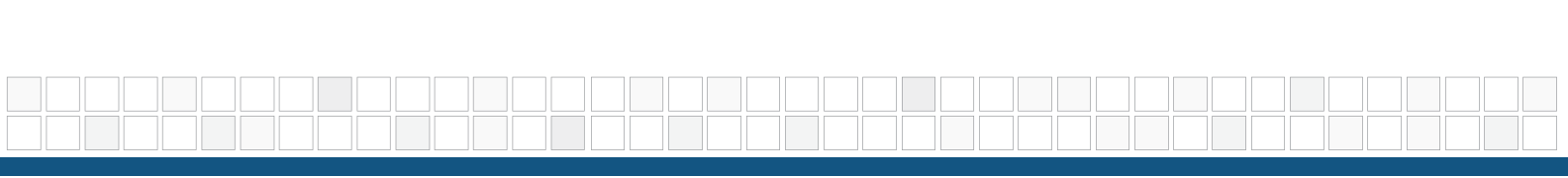
Actional’s distributed architecture supports the performance and scalability requirements of the company, which today peaks around 14 million transactions and, potentially will handle even more transactions when the company expands.

Specifically, Actional’s lightweight management components—agents or points of visibility and control—can be instrumented on heterogeneous clients that process services. Visibility components then monitor and track Web service activity on instrumented nodes and one hop away. This information is correlated in real-time by the Actional server, which, in turn, generates the real-time flow maps of runtime processes. If a management server is unavailable, the distributed components still do their work, so there is no single point of failure.

Most SOA management solutions on the market today use a central proxy server to control access and monitor Web services interactions. These solutions put a huge burden on the equipment and pose a threat to business continuity if they fail. The senior technical architect comments: “I’m very pleased with our architecture and how Actional fits right in. Rather than have everybody come in through a central proxy, we’ve used Actional’s distributed agents to put management capabilities directly into the hosted systems so we can pump the volume upwards without worrying about single points of failure or performance bottlenecks on peak days.”

Enabling Access through Consistent Policy Enforcement

Information security was another issue. “Before Actional, our developers had to write code—over and over again—for security mediation between services. With Actional, they don’t have to do this. From an IT perspective, this benefit is huge,” says the senior technical architect. With Actional policies are centrally created on the Actional management server, not coded into the services. This allows policy to be changed and then pushed to the control agents on the appropriate servers for enforcement, for example, for service access and other types of security.



He explains other benefits: “Actional’s Web service management also allow us to put policies in place to allow applications created at local IT centers to call corporate services safely and protect our enterprise integrity. In addition, with Actional we can ensure policy control back to the legacy systems, where we can validate identity, which tightens security, and the data flowing through the network is encrypted, That is light years ahead of where we were, say, towards the end of 2006 or at the beginning of 2007.”

ACTIONAL IN ACTION: DELIVERING SOA BENEFITS

The company is deriving significant benefit from Actional’s ability to layer management capabilities into its high-performance distributed SOA infrastructure. It also permitted controlled access by developers in their many remote IT centers, feeding the innovation and helping reduce redundant development projects.

First-time Visibility

For the first time, the company has visibility into what the actual, heterogeneous SOA environment looks like thanks to Actional. (This diverse environment includes WebSphere and WebLogic platforms; legacy mainframe, .NET, and Java services; and SQL, Oracle, and Siebel.) In an early pilot, a batch server was instrumented with a point of visibility, an Actional agent. When the SOA operators saw their services, they were surprised by the volume of transactions—how hard the server was working—and who was calling it. This kind of data will be used in the registry/repository to catalog services and will help SOA operators to determine capacity planning more effectively.

According to the senior technical architect, “Currently, we’re instrumenting Actional on more and more servers hosting Web services to get overall visibility into what our environment truly looks like. After this discovery phase, we’ll decide our policies.” Just as important, services populated in the registry will be visible for reuse.

Web Service Management and Security

Actional is closing security gaps and enabling runtime enforcement of existing policies to insure enterprise integrity. In particular, Actional has enhanced security in multiple ways. The SOA retooling project spawned an initiative to bring in public key infrastructure (PKI) for validating the identities of internal systems. Actional functionality mediates the various security levels and requirements of different services in an SOA business process. “Previously, our developers had to write code—over and over again—for security mediation across services. With Actional, they don’t have to do this. From an IT perspective, this benefit is huge,” says the senior technical architect. Actional also provides last-mile security via “trust zones” that prevent SOA message traffic from reaching service endpoints if it hasn’t passed through designated security enforcement points.

He sums up the results: “From the customer experience to the back-end systems, with the help of Actional we are now validating identity, and the data flowing through the network is encrypted. Our security has definitely been kicked up a notch.”

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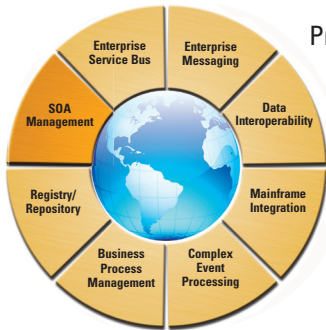
— Senior Technical Architect

A Foundation for Service Reuse and IT Savings

Even in the early stages of the SOA retooling with partial Actional deployment, the company was achieving key goals. "With Actional for service management and security, the door is open to using corporate IT services. Our remote IT teams can take advantage in their world of this functionality, instead of having to come up with their own way of delivering the same thing," says the senior technical architect.

There's more to come. "We've communicated our new policy for creating and using Web services and have laid out the steps of migrating or adopting Web service management to our developers," he says. "It's one of the easiest sells we've had to make. We'll have more agile development—at a lower cost."

ACTIONAL: HELPING TO MEET SOA CHALLENGES IN MULTI-VENDOR ENVIRONMENTS



Progress Actional is part of the Progress® SOA Portfolio, an interoperable portfolio of best-in-class service infrastructure products used to build, deploy, and manage a service-oriented architecture. From first project to global deployment, the Progress SOA Portfolio provides robust, yet agile SOA infrastructure designed for challenging, real-world environments.

ABOUT PROGRESS SOFTWARE

Progress Software Corporation (NASDAQ: PRGS) provides application infrastructure software for the development, deployment, integration and management of business applications. Our goal is to maximize the benefits of information technology while minimizing its complexity and total cost of ownership. Progress can be reached at +1-781-280-4000.

www.progress.com

PROGRESS
SOFTWARE

Worldwide Headquarters

Progress Software Corporation, 14 Oak Park, Bedford, MA 01730 USA
Tel: +1 781 280-4000 Fax: +1 781 280-4095
On the Web at: <http://www.progress.com>

For international office locations and contact information, please refer to:

<http://www.progress.com/worldwide>

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