



Fiorano
Enabling change at the speed of thought

www.fiorano.com

Message Driven SOA -- Enterprise Service Oriented Architecture

Fiorano ESB ROI Primer

Effective and pervasive reuse of application components

--- Atul Saini

AMERICA'S

Fiorano Software, Inc.
718 University Avenue Suite
212, Los Gatos,
CA 95032 USA
Tel: +1 408 354 3210
Fax: +1 408 354 0846
Toll-Free: +1 800 663 3621
Email: info@fiorano.com

EMEA

Fiorano Software Ltd.
3000 Hillswood Drive Hillswood
Business Park Chertsey Surrey
KT16 0RS UK
Tel: +44 (0) 1932 895005
Fax: +44 (0) 1932 325413
Email: info_uk@fiorano.com

APAC

Fiorano Software Pte. Ltd.
Level 42, Suntec Tower Three 8
Temasek Boulevard 038988
Singapore
Tel: +65 68292234
Fax: +65 68292235
Email: info_asiapac@fiorano.com

Entire contents © Fiorano Software and Affiliates. All rights reserved. Reproduction of this document in any form without prior written permission is forbidden. The information contained herein has been obtained from sources believed to be reliable. Fiorano disclaims all warranties as to the accuracy, completeness or adequacy of such information. Fiorano shall have no liability for errors, omissions or inadequacies in the information contained herein or for interpretations thereof. The opinions expressed herein are subject to change without notice.

FIORANO ESB ROI PRIMER

Effective and pervasive reuse of application components

Executive Summary

As organizations build out their networks, enabling applications and data to leverage these distributed infrastructures is still a daunting task. In the 'irrational exuberance' era, large applications infrastructures were built on traditional hub-and-spoke, publish/subscribe architectures with expensive customization of adapters and applications. However, in the current reality of doing 'more with less', the complexity of current applications infrastructures becomes a barrier to success.

Ironically, while customers are demanding simplicity, scalability and affordability, most EAI vendors have responded by integrating even more point-products into their *solutions*. In a recent paper - *Reducing Integrations Cost* - Forrester reports that Global 3500 firms will spend an average of \$6.4- Million in 2003 on EAI budgets, and less than 35% of the EAI projects come in on time and on budget - a testament to the inefficiencies and limitations of incumbent EAI solutions.

Fiorano has been working on addressing the fundamental architectural limitations of distributed applications since 1995. The Fiorano Enterprise Service Bus (previously Tifosi) is an industry-first, peer-to-peer, standards-based Services Integration Platform that is being used by enterprises to build manageable, scalable and affordable EAI solutions. Fiorano Enterprise Service Bus (Fiorano ESB) built on FioranoMQ - the world's fastest, most scalable JMS server, has addressed some key customer requirements. It is a simple, affordable, and scalable approach that enables Component based Business Process Composition. Using the notion of coarse-grain programming techniques to create a palette of reusable components, the creation, prototyping, production and ongoing management of complex applications can be made as simple as manipulating numerical macros in a spreadsheet as used today.

ROI drivers of Fiorano ESB

ROI drivers Fiorano ESB are listed below:

- Next generation Component-based Business Process Composition
- Easy Extensibility to emerging standards-based components
- Mapping and Transformation Tools
- Multiple Data Source Access Connectors
- Support for Common Formats and Standards
- Support for Multiple Transport Mechanisms
- Dynamic Process and Workflow Changes
- Remote Deployment and Management
- Integrated Monitoring, Tracing and Logging
- Unconstrained Performance

Next generation component-based business process composition

Fiorano defines component-based programming as the process of creating software applications by visually connecting objects together on a screen. Component-based programming is performed at a level of abstraction that is higher than the normal level of algorithms and data structures employed by programmers building solutions using various programming languages.

Just as non-programmers find it easy to rapidly change spreadsheet formulae to create new numerical solutions, business managers should be able to create new business processes from existing ones by replacing software components with others from a palette of reusable software components. The result is a powerful software system that allows business processes to be created, modified, deployed and changed without needing the intervention of the IT department or any programmers.

Easy extensibility to emerging standards-based components

Visual tools allow multiple component instances to be 'loosely bound' to each other into a single 'distributed application'.

One of the most important benefits with the next-generation component-model is that it does not constrain developers to follow any complex API mandated by industry consortia. Instead, developers can easily reuse each other's components, provided that each developer exposes the interfaces of his/her components using XSD descriptors for input and output assertions. Thus, the simple use of *XML-based assertions* by component-developers allows effective and pervasive reuse of the application components in any number of applications.

Mapping and transformation tools

Fiorano ESB ships with a visual mapping tool with support for XML-XML mappings based on XSLT, with advanced transformation facilities. This tool is part of the Fiorano Services Palette. The palette also includes an XSLT service to apply a specified XSLT transformation. Third party tools with support for legacy-XML, XML-legacy and other transformations (for instance, to FIX, SWIFT and other formats) can be added as Services to the Fiorano Service Palette with very little work (minutes).

Multiple data source access connectors

Fiorano ESB incorporates in-built services to connect to multiple data sources with support for reading and writing from

- Relational Databases (Oracle, SQL, Sybase, MS SQL and others)
- Flat file
- EDI X12 and EDI
- Delimited Text file to XML converter
- XML to
- TCP Sockets
- RMI services
- JMS Topics (any JMS provider)
- MQSeries
- Tib/Rendezvous

Support for common formats and standards

Besides support for XML-XML transformations, databases, flat-files and various connectors to various messaging systems, Fiorano ESB provides default Services (accessible directly via the Fiorano Service Palette) for many useful functions such as:

- POP3 (to receive emails)
- SMS (to send SMS messages)
- FTP (FTP a file to a specified FTP Server)
- JPython (execute JPython scripts)
- PERL (execute Perl scripts)
- XSLT (apply an XSLT transformation)
- IF-XPATH condition evaluator
- WebService Adapter (Adapter for SOAP/Web-services, accepts SOAP executes the specified web-service and pipes result to output)
- Zipper (zips a specified file)
- Fiorano Services for EDI processing (EDI to XML or Java object conversion, and viceversa) are available through third-party ISVs and Fiorano partners.

Fiorano ESB supports TCP, HTTP and HTTPS communications (with customizable encryption) on a per-route basis. Users can dynamically change process routes from point-to-point (directly between Fiorano Peer Servers) or centralized (going over the clustered, centralized message bus).

Dynamic process and workflow changes

As the industry's first platform offering 'process route transparency', Fiorano ESB provides change management and deployment capability without any programming effort. Fiorano ESB provides 'coarse-grained' services that are ideally suited to easy change and replacement.

Using external data routing to allow dynamic process changes at runtime critically distinguishes Fiorano ESB from other platforms, making it easy for applications to be modified on-the-fly by simple service replacement and/or addition.

Remote deployment and management

Fiorano ESB allows business processes to be deployed across the network instantly and significantly reduces deployment costs over central-server architected platforms. Fiorano ESB allows software services to be dynamically installed and launched over the network, leading to significant reductions in the time and costs of deploying distributed business processes.

Integrated monitoring, tracing and logging

Fiorano ESB is specifically engineered for distributed applications with platform-level support for Monitoring, Tracing and Logging. Services are monitored in real-time over the network and the platform supports remote tracing and logging as well. Fiorano ESB allows for real-time monitoring of properties specific to the service.

Unconstrained performance

Fiorano ESB offers a fully distributed, Peer-to-Peer, event-based architecture to build services that can participate in a distributed application. Fiorano ESB combines peer-to-peer process containers (for speed and reliability) along with centralized administration and control (for scalability). Data flows directly between peers leading to massive performance improvements as the number of network nodes increase.

About Fiorano Software

Fiorano Software (www.fiorano.com) is a leading provider of enterprise class business process integration and messaging infrastructure technology. Fiorano's network-centric solutions set a new paradigm in ROI, performance, interoperability and scalability. Global leaders including Fortune 500 companies such as Boeing, British Telecom, Credit Agricole Titres, Lockheed Martin, NASA, POSCO, Qwest Communications, Schlumberger and Vodafone among others have used Fiorano technology to deploy their enterprise nervous systems.