



The IT subsidiary of Delta Air Lines, a major air carrier with service to more worldwide destinations than any other airline

Industry: Transportation/Logistics
Geography: Global

Deployment Summary

- Delta was an early adopter of ActiveMatrix and is using it as a foundation for DNS, the IT backbone that enables all core business processes.
- Delta is moving from a proprietary legacy service environment to ActiveMatrix, a standards-based SOA infrastructure.
- Delta will host 100+ Java and .NET services on ActiveMatrix, with application logic residing on mainframes.

Benefits

- Flexible, vendor-neutral SOA supports a variety of legacy assets and technologies.
- Native support for Java, .NET, and legacy applications allows users to continue working in their own domains with familiar tools and technologies – improving developer productivity, while providing a common service creation, deployment, and management framework.
- Adoption of industry standards reduces developer costs and prevents vendor lock-in.
- Baked-in policy enforcement allows enforcement of regulatory requirements with lowest number of moving parts and less chance of security loopholes.
- Grid-based architecture provides the capacity to quickly configure load balancing and fault tolerance for high availability and uniform lifecycle management of all services independent of technology.



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Melanee Haywood, Vice President, Engineering and Common Services, Delta Technology, Inc.

Delta Takes Off With TIBCO ActiveMatrix

With service to 324 destinations in 62 countries, Delta Air Lines provides scheduled air transportation for passengers and cargo to more worldwide destinations than any other airline. Delta Technology is a wholly-owned IT subsidiary of Delta Air Lines that has a direct impact on customers when they are, for example:

- Making a seat assignment at www.delta.com
- Receiving a boarding pass at a self-service kiosk
- Checking departure time
- Claiming their baggage

Delta has been a TIBCO customer for many years and was an early adopter of TIBCO ActiveMatrix™, TIBCO’s SOA platform that combines integration, composite application, and governance capabilities into one vendor-neutral framework for building, deploying, and managing applications.

“TIBCO has focused on understanding Delta’s business needs,” said Melanee Haywood, vice president, Engineering and Common Services, Delta Technology, Inc. “They have partnered with us to develop solutions that support our long-term, business-focused technology strategy. The ActiveMatrix product enables us to move away from costly, proprietary

solutions to a more open, agile, cost-effective model of service-oriented technology.”

Delta relies on an IT backbone known as Delta Nervous System (DNS) to receive, synchronize, and distribute all the data that’s essential to running the airline – from passenger check-ins and boarding to frequent-flier miles. TIBCO software – including TIBCO Rendezvous® and TIBCO BusinessWorks™ – were already essential components of the Delta Nervous System when Delta began planning DNS 2.0 – an upgrade that would replace their proprietary legacy service environment with standards-based SOA technology from TIBCO. This would involve porting more than 100 Java, C++, and .NET services to ActiveMatrix.

“The virtualization of a services environment was something we were really looking for,” said Bret Martin, Principal – Enterprise Architecture, Delta Technology. “We didn’t want to isolate ourselves in the Java world or the .NET world either. Being able to do development in .NET and Java was very attractive to us. That and our prior experience with TIBCO were deciding factors in choosing ActiveMatrix.”

Delta's business logic has very high performance requirements. Applications run on TPF on the mainframe. A majority of the services planned to reside on the ActiveMatrix foundation are high performance pass-through services to allow other applications to take advantage of key functions such as reservations, baggage tracking, check-in, residing on the mainframe.

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Bret Martin, Delta Technology

One business driver in moving to ActiveMatrix was cost. In their previous environment, services were expensive to own and build. By adopting industry standards (web services), they would be able to find developers more easily and incorporate more and more open source technology into their environment.

Another driver was business agility. By having the ability to quickly and affordably build new applications out of reusable services, they have been able to reduce development times and cost and deliver applications that are much more flexible for future changes.

To support these business drivers, Delta is taking a "hybrid" approach to SOA – building services that integrate existing systems with new and modernized applications and introducing governance, while focusing on business processes. "SOA is all about enabling business processes," says Martin. "Until then you don't really have an SOA."

From ActiveMatrix 1.0 to ActiveMatrix 2.0

As an ActiveMatrix early adopter, Delta had active support and direct contact from TIBCO Engineering during planning, implementation, testing, and deployment. "TIBCO spent a lot of time with us," said Martin, not only on building the new applications, but helping us figure out how to think about governance and how large-scale SOA would impact the organization. TIBCO brought all those things to light for us."

With the release of ActiveMatrix 2.0, Delta will be able to take advantage of

- built-in policy enforcement that makes it easy to turn on policies for technical or regulatory reasons at any time without needing to change or redeploy existing services.
- easy-to-use composite editor based on SCA (Service Component Architecture) for graphically assembling Java and .NET services, orchestration, mediation, and adapters into applications.
- service mediation deployed with the services that delivers true location and transport independence, making the services and mediation much more flexible to change.

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As services are built out, governance will be key – especially when services are mission critical to many different business units, such as passenger check-in, which is used at the boarding gate, kiosks, on the website, and at partner airlines.

Delta has a coexistence strategy planned between the two releases of ActiveMatrix, with plans to be 100 percent on ActiveMatrix 2.0 by Q208. Delta has implemented operational governance for enforcing policies using TIBCO ActiveMatrix® Policy Manager and is in the process of formalizing its SOA Center of Excellence to help support the migration to DNS 2.0.



TIBCO Software Inc. (NASDAQ: TIBX) is a provider of infrastructure software for companies to use on-premise or as part of cloud computing environments. Whether it's optimizing claims, processing trades, cross-selling products based on real-time customer behavior, or averting a crisis before it happens, TIBCO provides companies the two-second advantage™ – the ability to capture the right information at the right time and act on it preemptively for a competitive advantage. More than 4,000 customers worldwide rely on TIBCO to manage information, decisions, processes and applications in real time. Learn more at www.tibco.com

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