marlabs
driving digital agility

Flexible ESB architecture enables real-time, mobile learning enterprise experience at a university

Client

Our client is a private, nonsectarian American research university based in New York. They operate various schools, colleges, and institutes in other parts of the United States and abroad, in addition to study abroad programs.

Challenge

Our client wanted to design, build, deploy, and demonstrate a flexible Enterprise Service Bus (ESB) architecture to support the online and distance learning experiences at their global campuses and beyond. This is an important step towards providing real-time and mobile learning experience.

Marlabs Solution

Marlabs worked with the client's Global Technology Services Department (GTS) on a 10-month engagement to build the following:

- Necessary cloud infrastructure
- Enterprise service layer
- Enterprise data layer
- Any front end application/delivery layers as required to deliver one 'service' in the Sakai environment via a hybrid cloud supported delivery model.

The project kick started with a PoC in an agile method over 12 weeks to develop a working prototype of the Service Oriented Enterprise architecture in the following 6 sprints:

- Sprint 1: Architecture discussions; feasibility check for infra solutions
- Sprint 2: Technical assessment; build cloud infrastructure for ESB

- Sprint 3: Setup framework for monitoring and management of cloud environment; setup development infrastructure
- Sprint 4: Continue development infrastructure setup; configure/change management for ESB
- Sprint 5: Development
- Sprint 6: Any back log.

On successful completion and validation of this PoC, Marlabs undertook building of the remaining services to arrive at a comprehensive enterprise service architecture supporting the global community for the client. Marlabs also re-built the current customers' public portal to a new platform supporting the following capabilities:

- Timely delivery of mobile friendly content
- Data integration with core services
- Personalized geo-aware content delivery
- Manage federated content management
- Enhance and adapt social networking and collaboration
- Leverage cloud infrastructure for a high availability and scalability solution.

Benefits

- Time to market (rapid application development)
- Optimized costs: license cost and deployment cost
- Availability of pre-built components
- Validation using PoC
- Key architectural benefits from the approach to architecting the portal solution include:
  - Loose coupling
  - Layering
  - Service logic abstraction
  - A single data model provided for all persistent entities in the system.

Technologies

- Amazon Web Services (AWS)
- Java EJB, Sakai environment
- Liferay
- Custom RAD tool
- SOAP & HTTP protocol.

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