

FAA –TechAmerica
SWIM Discussion Summary
March 4, 2009

On March 4, 2009 a forum between TechAmerica and the FAA SWIM program took place. This was established so that the FAA could discuss SWIM related questions or documents in an open continuing forum with TechAmerica.

The agenda for the meeting was a discussion around some questions pertaining to the Tech America Seg 1-2 Transition paper.

- Benefit of an ESB in segment 2?
- Benefit of a service orchestration capability in segment 2?
- Benefit of a real-time service registry in segment 2?
- Benefit of message-oriented middleware (MOM) in Segment 2?

The meeting was kicked off with a SWIM overview presentation from Mike Hritz.

Enterprise Service Bus (ESB) in Segment 2 discussion

- Discussed use of ESB to facilitate centralized message bus.
- An emerging industry best practice is to use a single ESB.
- You can run all services through ESB if you desire. ESB provides a set of utilities and framework for implementing all four SWIM Core Services.
- ESB would provide interoperability and efficiency if it is well architected
- The NCES SOA of DISA is analogous to SWIM. An example of NCES implementation is TIBCO ESB.
- There is no mature open standard on Pub/Sub for Web Services. WS-Notification standard is still in work. IBM, Oracle and others are attempting to agree on overall WS eventing and notification messaging standards.
- Implementation is more of a policy issue and not technical risk.
- Need to look at the cost side of the equation. TechAmerica's Segment 1 to Segment 2 transition paper advocated some elements of both the federated and centralized architecture approaches.

Service orchestration capability in Segment 2

- Encourage a systems centric approach using a BPEL engine
- Look to the appliance (XML Gateway QVL) to take care of SIP concerns.

Message Oriented Middleware (MOM) in Segment 2

- Web Services Testing Forum (WSTF) working on interoperability. Oracle, IBM and others are members. Test scenarios are taken to this group.
- There are many products out there but they are not yet interoperable and there is not a timeframe for when they will be.
- FAA was encouraged to decide on a technology and go with it vs. waiting for the answer. Many of the large commercial organizations (Wal-Mart for example) have taken this approach.
- Proprietary solutions have sprung up. High speed, complex handshakes, use in stock trades. For many years, most large-scale systems have been proprietary.
- Need for low latency discussed.
- Ultimately, will need to adhere to a set of standards.

Real-time service registry in Segment 2

- Need a governance process to insure compliance.
- Don't get hung up on design time or run time issues.
- UDDI standard has been around of years. No one likes its limitations. A new standard is being developed but it is not complete or published.
- The rigor of aviation software development needs to be married with the agility of commercial products.
- Testing will take on great significance.
- The biggest challenge FAA will face: How to build and test constantly changing agile systems.
- DCGS – need to look into this for moving larger volumes of data

Future topics

The ending discussion talked to interest in 4 areas:

1. BPEL and its implementation.
2. Enterprise Information Management

3. Data Registry vs. Service Registry – approaches, pros & cons.
4. To help reconcile Segment 1 and Segment 2 coexistence a continued discussion is warranted on the merits of ESBs including pros and cons, and how to overcome interoperability if the FAA ends up with multiple ESBs from different vendors. For example multiple ESBs with different QoS could be less costly, using one for higher RMA/Security requirements and a different one for lower RMA/Security ones.