

## 9. SOA technologies

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### 9.1 Are you using an integrated commercial SOA suite?

|             | Oracle SOA suite | IBM websphere | Microsoft Biztalk | JBoss Enterprise SOA Suite | SAP Netweaver | TIBCO ActiveMatrix | Other |
|-------------|------------------|---------------|-------------------|----------------------------|---------------|--------------------|-------|
| UBC         |                  |               |                   |                            |               |                    |       |
| Michigan    |                  |               |                   |                            |               |                    |       |
| Cornell     | ✓                |               |                   |                            |               |                    |       |
| Georgetown  |                  |               |                   |                            |               |                    |       |
| Ohio State  |                  |               |                   |                            |               |                    |       |
| UMUC        |                  |               |                   |                            |               |                    |       |
| UofT        |                  | ✓             |                   |                            |               |                    |       |
| MIT         |                  |               |                   |                            | ✓             |                    |       |
| Washington  |                  |               | ✓                 |                            |               |                    |       |
| UW- Madison |                  |               |                   |                            |               |                    |       |
| UC-Irvine   | ✓                |               |                   | ✓                          |               |                    |       |
| Colorado    | ✓                |               |                   |                            |               |                    |       |
| Indiana     |                  |               |                   |                            |               |                    |       |

### 9.2 Indicate whether this is a) exploration b) a pilot or, c) an enterprise implementation

#### UofT

Using part of the Websphere suite: Message Broker. Implementing a small (100-150msg/sec) enterprise implementation. We'll scale it up as business demands increase.

#### MIT

We might be using a bit of SAP in places but we're not using any suite for everything or as a strategy

#### Washington

Only local implementations (not enterprise)

#### UC-Irvine

JBoss SOA suite: Production  
Oracle SOA suite: Development

#### Colorado

Pilot is implemented, primarily focusing on the Oracle Service Bus component. Goal for the next year is to have an Enterprise class implementation

### 9.3 Are you using one or more of the following service bus applications?

|            | Mulesoft | WSO2 ESB | Fuse (built on ServiceMix) | Apache ServiceMix | JBoss ESB | KSB (Kuali Service Bus) | Other Messaging                            |
|------------|----------|----------|----------------------------|-------------------|-----------|-------------------------|--------------------------------------------|
| UBC        |          |          |                            |                   |           |                         | JBoss HornetQ                              |
| Michigan   |          | i *      |                            |                   |           |                         |                                            |
| Cornell    |          |          |                            |                   |           | ✓                       |                                            |
| Georgetown |          |          |                            |                   |           | ✓ (1)                   |                                            |
| Ohio State |          | i *      |                            |                   |           |                         |                                            |
| UMUC       |          | ✓ (ESB)  |                            |                   |           |                         |                                            |
| UofT       |          |          |                            |                   |           | ✓                       | WMB (formerly MQ Integrator and MQ Series) |
| MIT        |          |          |                            |                   |           |                         |                                            |
| Washington |          |          |                            |                   |           | ✓                       |                                            |

|            |  |       |   |   |   |   |            |
|------------|--|-------|---|---|---|---|------------|
| UW-Madison |  | ✓ ESB | ✓ |   |   |   | Cape Clear |
| UC-Irvine  |  |       | ✓ | ✓ | ✓ | ✓ |            |
| Colorado   |  |       |   |   |   |   |            |
| Indiana    |  |       |   |   |   | ✓ |            |

\* Investigating: lead contender

(1) but KSB is not part of the roadmap\*

#### 9.4 Indicate whether this is a) exploration b) a pilot or, c) an enterprise implementation

##### Ohio State

Exploring Enterprise Service Buses, Service Registries, etc. (WSO2, Mule, Fuse, JBoss)

We have KSB but it is not our target.

##### UMUC

Implementing for production

##### UofT

Implementing a small (100-150msg/sec) enterprise implementation. We'll scale it up as business demands increase.

##### Washington

KSB usage is local

Exploring Oracle Service Bus

##### UM-W

Cape Clear is in retirement

Oracle, Fuse and WSO2 will soon be set up as part of our integration testbed

##### UC-Irvine

1. Apache: production
2. JBoss: production
3. Fuse: proof of concept
4. KSB: In development

##### Indiana

We have an enterprise implementation of Kuali Rice + KSB.

#### 9.5 Which enterprise services are connected via a bus?

- UBC: SIS & Learning Tools provisioning engine, ePayment
- Cornell: Kuali Rice, Kuali Financials, standalone custom Rice-based applications
- Ohio State: none at present
- UMUC: We are exposing and aggregating delivered services in PeopleSoft Campus Solutions for Student Accounts to our CRM platform. We are also working to connect real time IMS LIS to the bus.
- UofT: Student Contact Information is about to go into production.
- Washington: KSB: Kuali CDM and myPlan and KIM
- UW-Madison: Certain Person Services, Curricular data services
- UC-Irvine: Apache SOA without the service bus has been in production for two years handling Timesheet and Facilities Work Order management processes. We are bringing up the service bus now primarily for data warehousing.
- Colorado: Basic student profile information, user provisioning and update flows
- Indiana: Workflow, Identity Management, Calendar, Portal, Notification, Student Services, Research Administration, Enterprise Calendar, HR system, Leave Management, Travel System, Purchasing, etc.

#### 9.6, 9.7 Which of the following technology standards do you use?

|            | JAX-WS, JAX-B | WS-Transaction | BPEL | SAML | WS-Security | WS-Trust | WS-Policy | Other |
|------------|---------------|----------------|------|------|-------------|----------|-----------|-------|
| UBC        | JAX-WS, JAX-B |                |      | SAML |             |          |           |       |
| Michigan   |               |                |      |      | WS-Security |          |           |       |
| Cornell    | JAX-WS, JAX-B |                |      |      |             |          |           |       |
| Georgetown |               |                |      | SAML |             |          |           |       |
| Ohio State | JAX-WS, JAX-B | WS-Transaction |      | SAML | WS-Security |          |           |       |
| UMUC       |               |                |      | SAML | WS-Security |          |           |       |
| UofT       | JAX-WS, JAX-B |                |      | SAML | WS-Security |          |           |       |
| MIT        | JAX-WS, JAX-B |                |      | SAML |             |          |           |       |
| Washington | JAX-WS, JAX-B |                |      | SAML |             |          |           |       |
| UW-Madison | JAX-WS, JAX-B |                | BPEL | SAML | WS-Security |          |           |       |
| UC-Irvine  | JAX-WS, JAX-B |                | BPEL | SAML | WS-Security |          | WS_Policy |       |

|          |                       |  |  |      |             |  |      |
|----------|-----------------------|--|--|------|-------------|--|------|
| Colorado | JAX-WS, JAX-B         |  |  |      |             |  |      |
| Indiana  | JAX-WS, JAX-B, JAX-RS |  |  | SAML | WS-SECURITY |  | oath |

## 9.6 How would you describe the logical topology of your SOA?

|            | Bus | Hub-and-spoke | Point-to-point | Federated | Other                   |
|------------|-----|---------------|----------------|-----------|-------------------------|
| UBC        | Y   |               | Y              |           |                         |
| Michigan   |     |               | Y              |           |                         |
| Cornell    |     |               | Y              |           |                         |
| Georgetown |     |               | Y              |           |                         |
| UMUC       | Y   | Y             | Y              | Y         |                         |
| UofT       |     | Y             |                |           |                         |
| MIT        |     |               | Y              |           |                         |
| Washington | Y   |               |                |           |                         |
| UW-Madison | Y   |               |                |           |                         |
| UC-Irvine  |     |               |                |           | A mixture of topologies |
| Colorado   |     |               |                |           | A mixture of topologies |
| Indiana    |     |               |                |           | A mixture of topologies |

## 9.9 Has the introduction of SOA related technologies altered your enterprise technology road-map?

**UMUC** Yes - the ability to integrate via SOA/web services is a key determinant we evaluate new products on.

### UofT

Yes. SOA is being talked about as a "game-changer". The business people quickly recognize the benefits of SOA, while the IT people seem to warm to it much more slowly, possibly because they see more implementation challenges than do the business folk.

### MIT

Yes, but project priorities have delayed any progress in this direction

### Washington

We don't have a clearly articulated technology roadmap  
Pub-sub may have a greater impact than web services

### UW-Madison

Not much yet. I imagine we'll see a lot of planning in the coming eighteen months.

### UC-Irvine

SOA has changed the roadmap, primarily because people started thinking about real time.

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