Integrations of SchoolMAX™ Enterprise SIS with the OpenEAI Enterprise Service Bus

June 26, 2007

Presentation Outline

- Introduction to SchoolMAX™ Enterprise
  - What it is
  - Challenges and goals
  - Architecture
- How we got here
  - Roles that ERPs and SISs have played in prior OpenEAI presentations
  - Standardize on Business Objects rather than APIs
- How SchoolMAX™ Enterprise fits into this architecture
  - OpenEAI architecture, by decoupling enterprise applications from each other, allows a seamless integration into an enterprise
  - Demonstrate and explain how SchoolMAX™ Enterprise was used to replace AnyERP

SchoolMAX™ Enterprise – What It Is –

- J2EE Based Student Information System for K-12 market
- Gives school districts a “global” view of a student much like an ERP does from a human resources perspective

SchoolMAX™ Enterprise – Challenges and Goals

- Needed open, standards based solution
- Major implementation with the Los Angeles Unified School District (LAUSD)
- Many different interface points required not only from an integration perspective but from a product “module” perspective

SchoolMAX™ Enterprise – Challenges and Goals

- From an integration perspective there were also many challenges and goals considering the product would be 1) deployed and integrated at various sites with 2) many different technology platforms and 3) many legacy applications that needed to be integrated
  - A repeatable process to follow for analyzing, developing and testing integrations and reporting status on this process.
  - A process for developing, executing, and certifying user acceptance tests.
  - Help LAUSD implement SchoolMAX™ and their integrations, so they become a SchoolMAX™ reference site.

SchoolMAX™ Enterprise – Challenges and Goals

- Publish a list of business object definitions that SchoolMAX™ exposes.
- Packaged, flexible EAI framework, which provides all basic services of EAI---connectivity, transport (proxy and routing), translation, and transformation services.
- Use appropriate open business sector standards and appropriate open technology standards. Open standards are public standards with a community of support.
- support request/reply and synchronization modalities.
- Appropriately easy to support by MAXIMUS and clients.
- Will have a native EAI protocol and transport protocol, but can be extended to support others. Some set of adapters for relevant partner applications such as lunch, transcript, library, textbook, payroll, HR, etc. and generic adapter applications such as a generic loader adapter and a generic file adapter.
- Lends itself to integration with the product strategy; for example, creating marketable products such as ConnectMAX™ and ConnectMAX™ Adapters.
- Testing strategy that can be used to verify implementation of integration requirements and verify the success of deployments.

SchoolMAX™ Enterprise – Architecture

- The goals and direction set for the product created a service layer that could be leveraged both as a business level API within modules of the application as well as by the integration layer that would expose that API to the rest of the enterprise
- Important to note the differences between the service layer and the integration layer and how integration requirements are different than application module requirements

How we got here

- In previous presentations, we've described the decoupled nature of integrations that use OpenEAI and how one system can be replaced by another with little or no changes to any of the peripheral systems involved in the integration
- These integrations involved different ERP systems with different data models and different underlying APIs, however they shared the same business object model (i.e., the Message Object API)

How we got here

- The sample ERP included in the OpenEAI sample enterprise was authoritative for BasicPerson data and we were able to demonstrate obtaining that data from some other authoritative system (Banner) with zero changes to the applications making requests for that data or keeping themselves in sync with changes to that data
- There were no transformations required due to the fact that the two systems shared the same business object model (MOA)
- BasicPerson => BasicPerson

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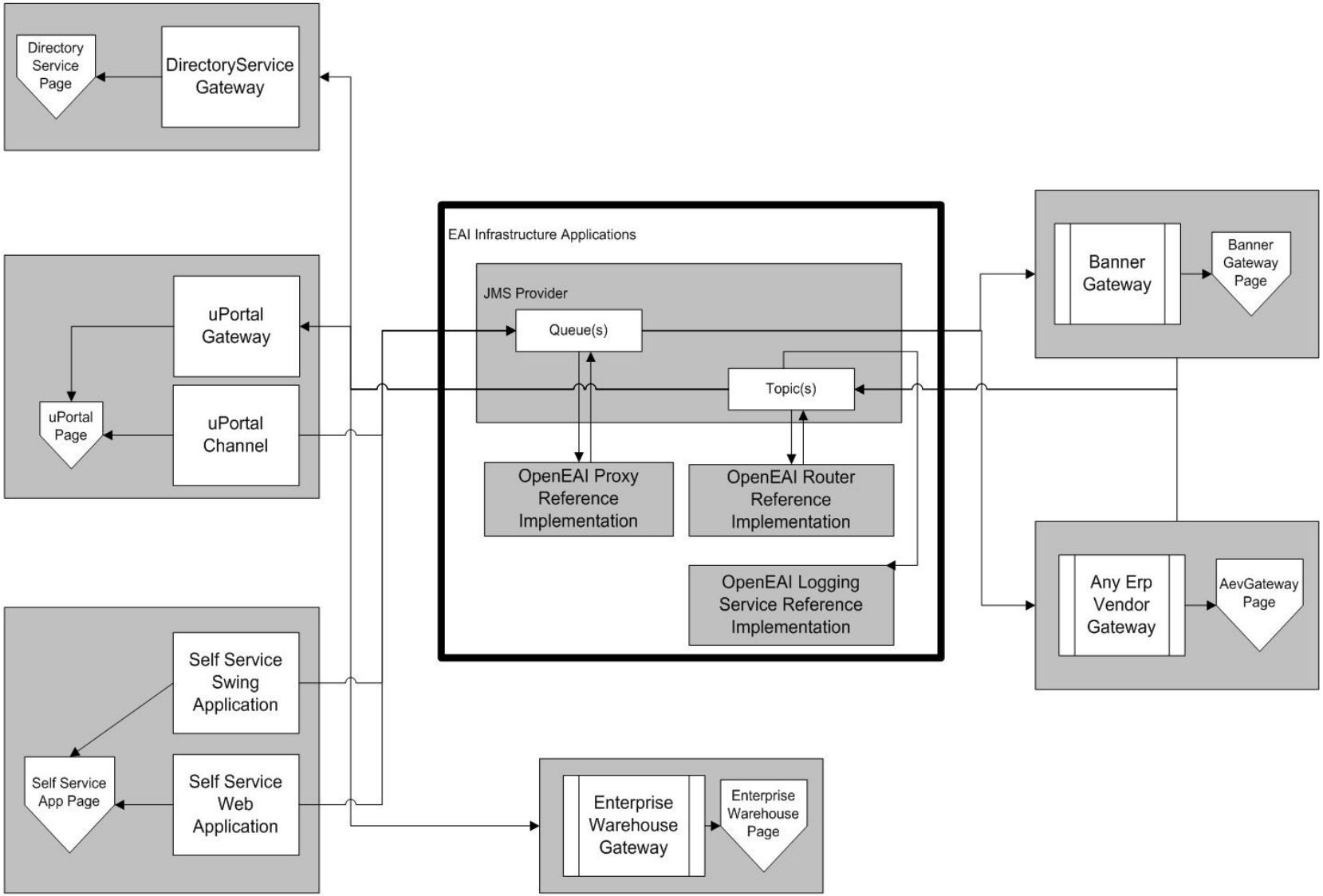
$Source: /cvs/repositories/openeai/configs/Environments/Examples/Documentation/MessagingEnterprise.vsd$

Any OpenEAI Enterprise Messaging Enterprise



Similarities with the SchoolMAX™ Enterprise Integration

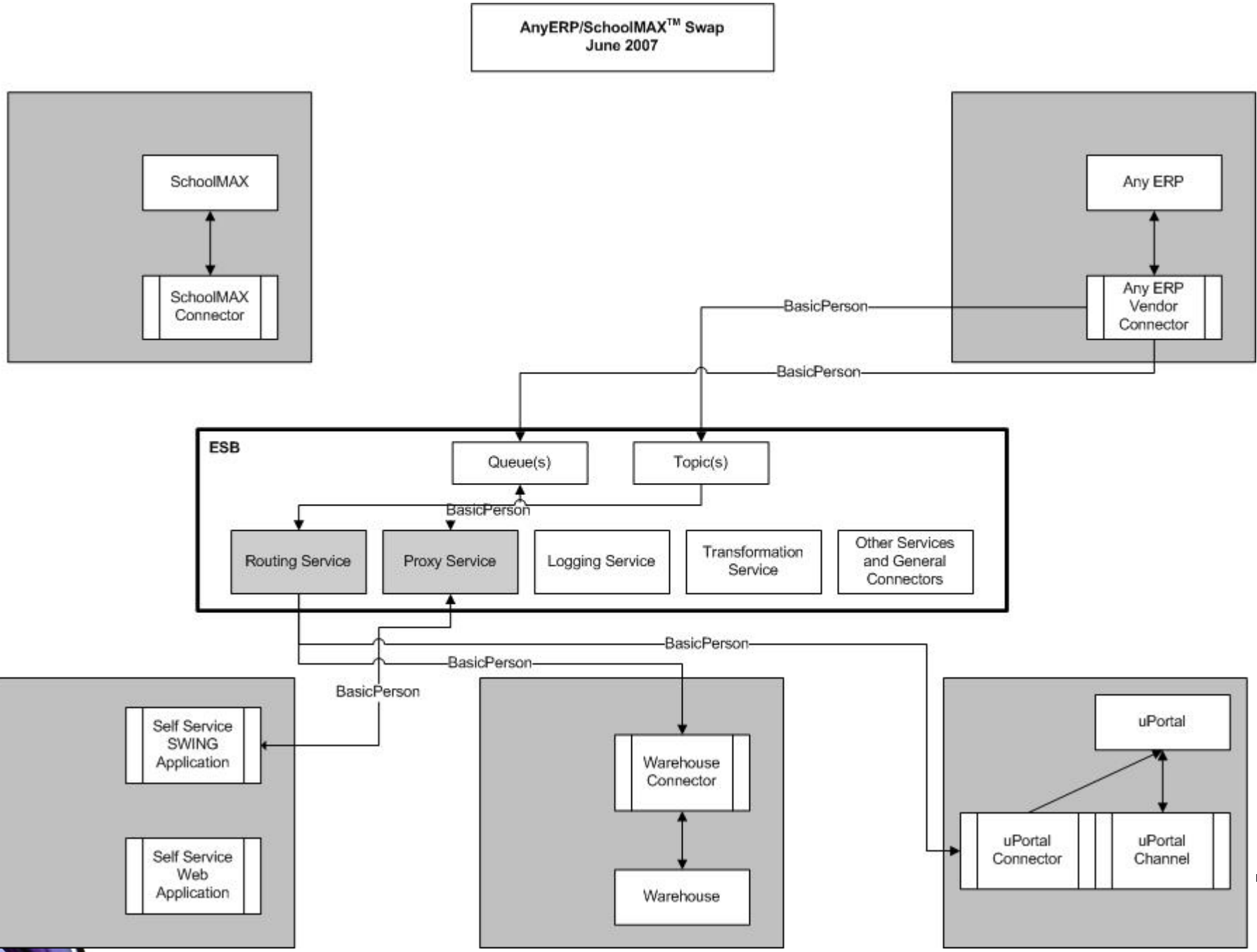
- SchoolMAX™ has the service layer which we could leverage meaning the messages consumed and processed would go through the same business rules as users sitting down and entering the data via the user interface
- The systems have different data models AND different business objects however, those business objects share some of the same data elements
- BasicPerson => FamilyMember

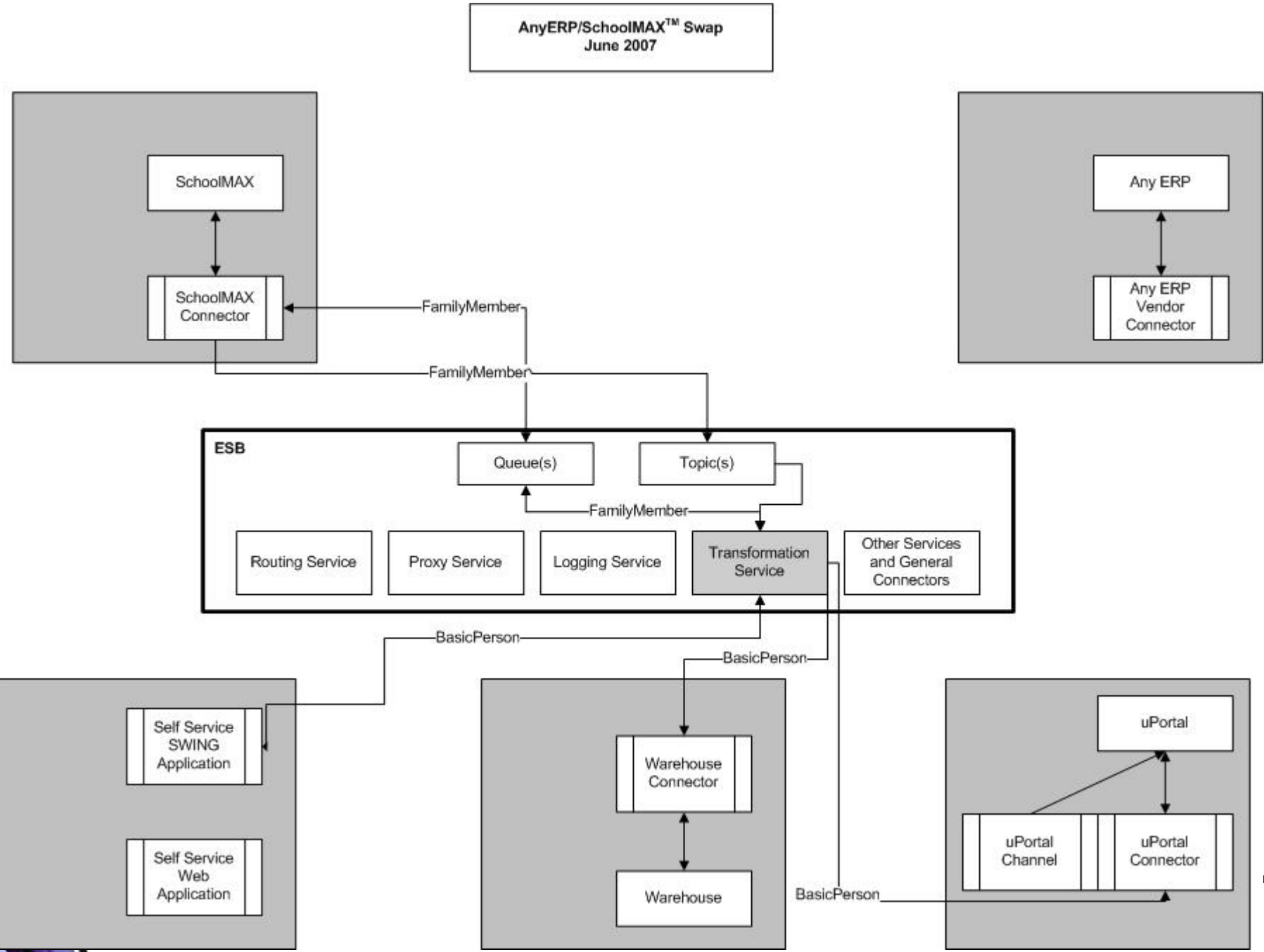
How the ESB was used

- Transformation Service is a core service that performs various types of transformations from one MOA to another
- Request transformation that converts BasicPerson.*-Request messages sent from the sample apps into FamilyMember.*-Request messages and sends those to SchoolMAX
- Synchronization transformation that converts the resulting FamilyMember.*-Sync messages into BasicPerson.*-Sync messages which are routed appropriately to systems interested in BasicPerson synchronization messages

Benefits

- Because all of this work is performed in the middle (i.e., in the bus) we're able to react to changes and/or new systems with zero impact on the peripheral systems (e.g., the portal, the SWING client, the warehouse, etc.)





Overview of the demo

- The demo will be used to demonstrate what we've described here
- It shows how the peripheral systems continue speaking their own "language" while we respond to the introduction of a new system into the overall picture
- It demonstrates how agile an organization can be even though there are numerous differences between the systems above and beyond technical differences

Demonstration

Questions and additional information

- http://www.openeai.org/live/?p=5&sub=0
- http://www.openii.com/live/index.php?page=downloads