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Identity Service using Enterprise Service Bus

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Agenda



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- About Emory
- The Challenges for Enterprise Application Integration
- Emory SOA and Enterprise Service Bus (ESB)
- Identities at Emory
- Identity Service using Enterprise Service Bus
 - Identity Service Functionalities
 - Identity Service Enterprise Messages and Objects
 - Identity Service Messaging Modalities
 - Current Application Integration based on Identity Service



Facts & Figures

- Private university in suburban Atlanta
- ~ 13,000 undergrads, 7,000 grads
- Professional schools, including Medical, Law, Business, Public Health schools
- ~ 24,000 employees, including those from our academic medical center (hospitals and clinics)
- Centralized IT, but many strong departmental IT groups



- The challenges for enterprise application integration
 - Ad-hoc, point-to-point
 - Redundancy
 - Lack of Flexibility
 - High degree of Complexity
 - Batch-based
- Emory University to utilize Enterprise Service Bus to streamline the integration among various applications

Enterprise Service Bus

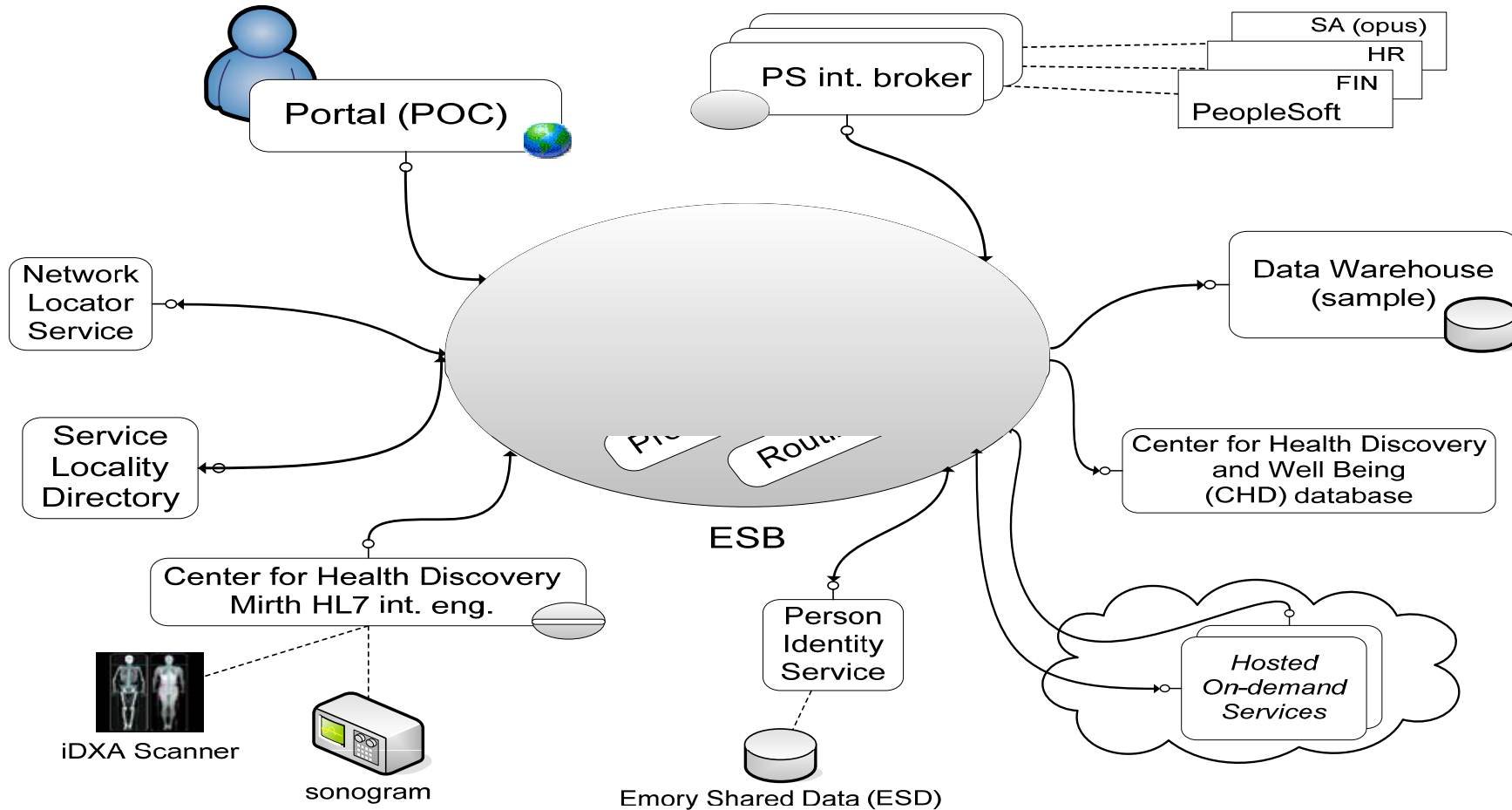


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- ESB is standard-based integration platform
- Multiple event-driven messaging modalities
- A set of core services
 - Transformation
 - Routing
 - Proxy
 - Logging
- Ease the burden of integrate a large numbers of heterogeneous applications

Emory ESB

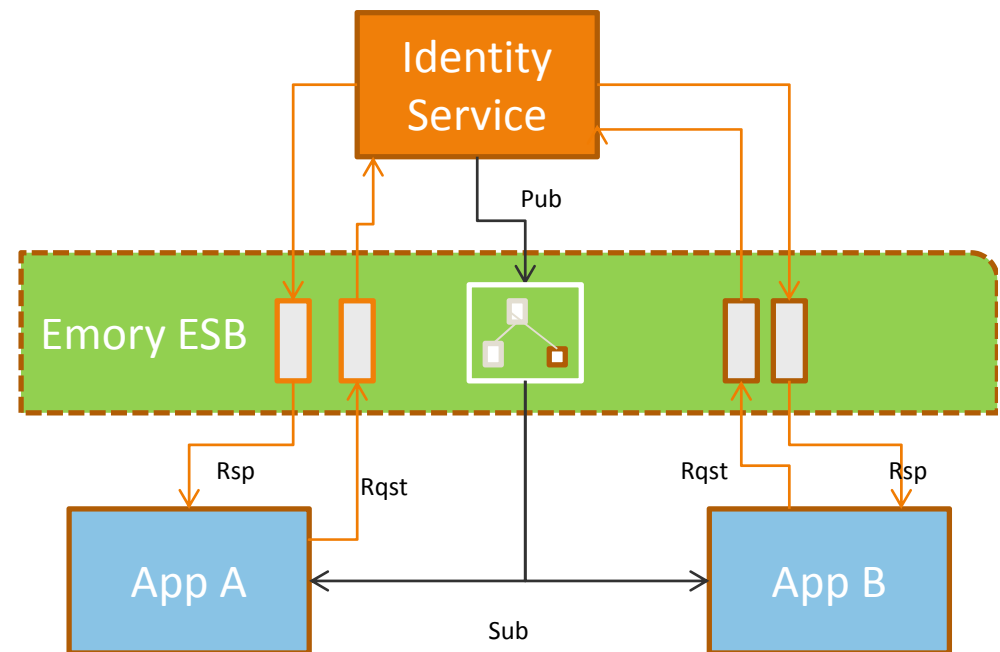


- OpenEAI, Java, SonicMQ, Oracle DB, VMWare VM.
- Foundation for Emory service-oriented architecture

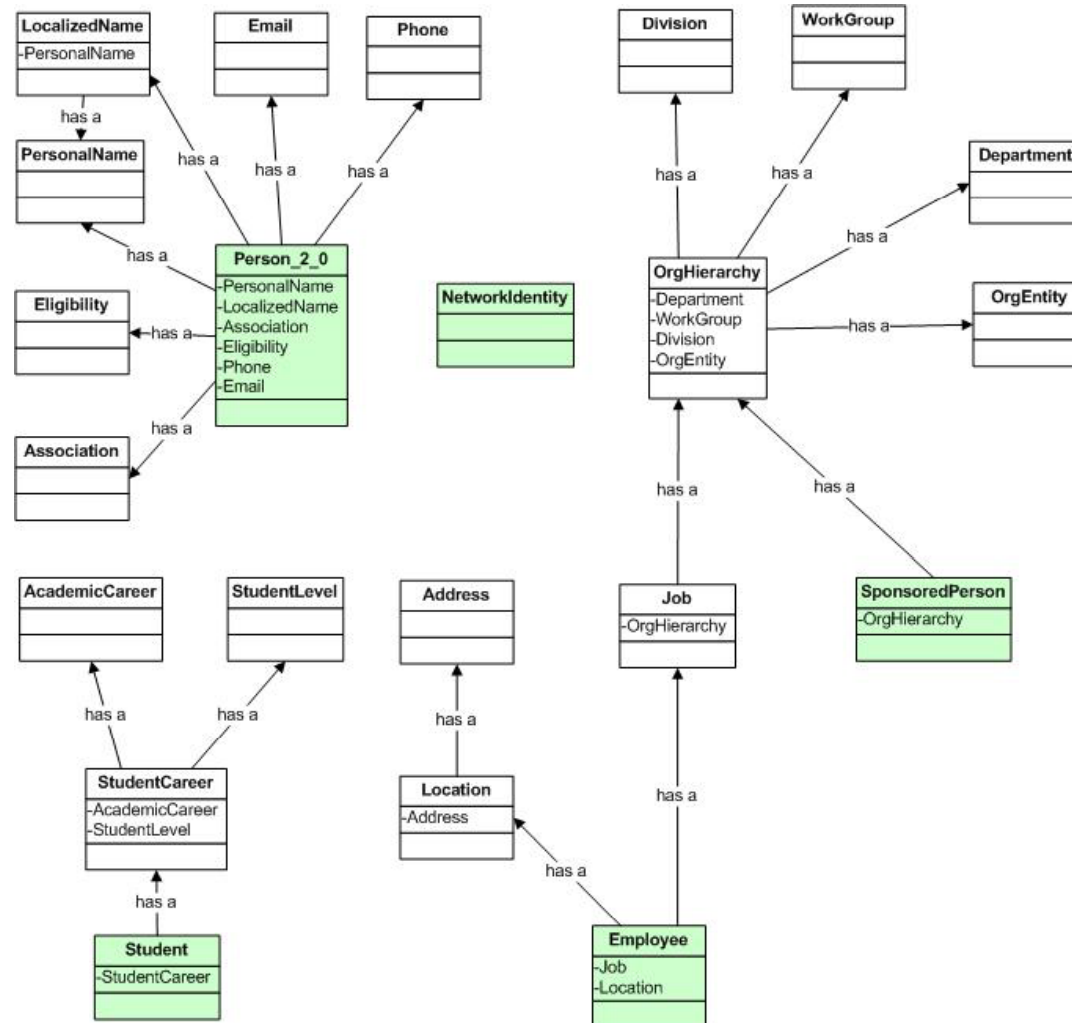
Identity Service

- One common integration task at Emory is for an application to acquire identity data from PeopleSoft or other authoritative sources

- Identity Service using ESB has been developed to publish identity data to the bus and provide query functionality



Identity Service Enterprise Objects



- Enterprise Object XML Implementation

- Person

- Employee

- Student

- SponsoredPerson

- NetworkIdentity

```
<!ELEMENT Person (PublicId, PersonalName, LocalizedNameList?,  
SSN?, BirthDay?, BirthMonth?, BirthYear?, DriversLicense?,  
NationalIdCard*, Gender?, Association*, Eligibility*, Tag*,  
FallbackContact*,Phone*,Email*, Prsni)>
```

```
<!ELEMENT Employee ( EmplId?, PublicId?, CurrentHireDate?,  
OrigHireDate?, ServiceDate?, EmployeeStatus?, Job* ,Location?  
)>  
<!ATTLIST Employee  
    faculty (true | false) #IMPLIED  
    physician (true | false) #IMPLIED  
    healthCareManager (true | false) #IMPLIED  
    administrative (true | false) #IMPLIED  
    studentStaff (true | false) #IMPLIED  
    staffStudent (true | false) #IMPLIED  
    staff (true | false) #IMPLIED  
    retired (true | false) #IMPLIED  
    preStart (true | false) #IMPLIED  
>
```



- Identity Service messaging modalities:
 - Publish/Subscribe
 - Scheduled Command
 - Implementation: JMS Topic
 - Request/Reply
 - Implementation: JMS Queue

Enterprise Object XML Messages

- Identity Service enterprise messages for each object
 - Create-sync.xml (publish create events)
 - New Data
 - Update-sync.xml (publish update events)
 - New Data and Baseline Data
 - Delete-sync.xml (publish delete events)
 - Baseline Data
 - Query-request.xml (query interface)
 - Provide-reply.xml (query response interface)

- Identity can be queried using query specifications
 - PersonQuerySpecification
 - EmployeeQuerySpecification
 - StudentQuerySpecification
 - SponsoredPersonQuerySpecification
 - NetworkIdentityQuerySpecification

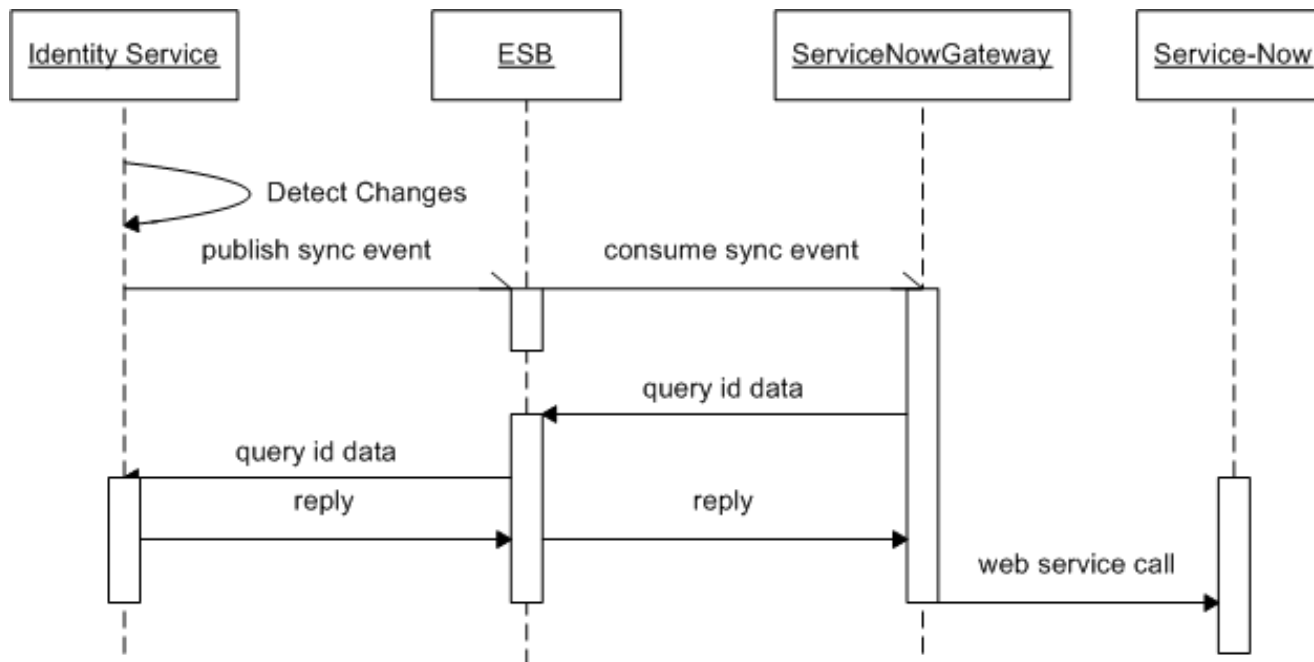
```
<!ELEMENT PersonQuerySpecification (PublicId?, NetId?, EmplId?, Prsni?)>  
<!ELEMENT EmployeeQuerySpecification (EmplId?, PublicId?)>  
<!ELEMENT StudentQuerySpecification (EmplId?, PublicId?)>  
<!ELEMENT SponsoredPersonQuerySpecification (PublicId?)>  
<!ELEMENT NetworkIdentityQuerySpecification (Value?, PublicId?, Domain?)>
```

Identity Service



- Example:

Service-Now is hosted solution to replace Remedy for Emory





Demonstration



Future Integrations

- Identity Management System
- Learning Management System
- Library System
- Listservs
- Mail Sorter



Questions