

# Integration Competency Center

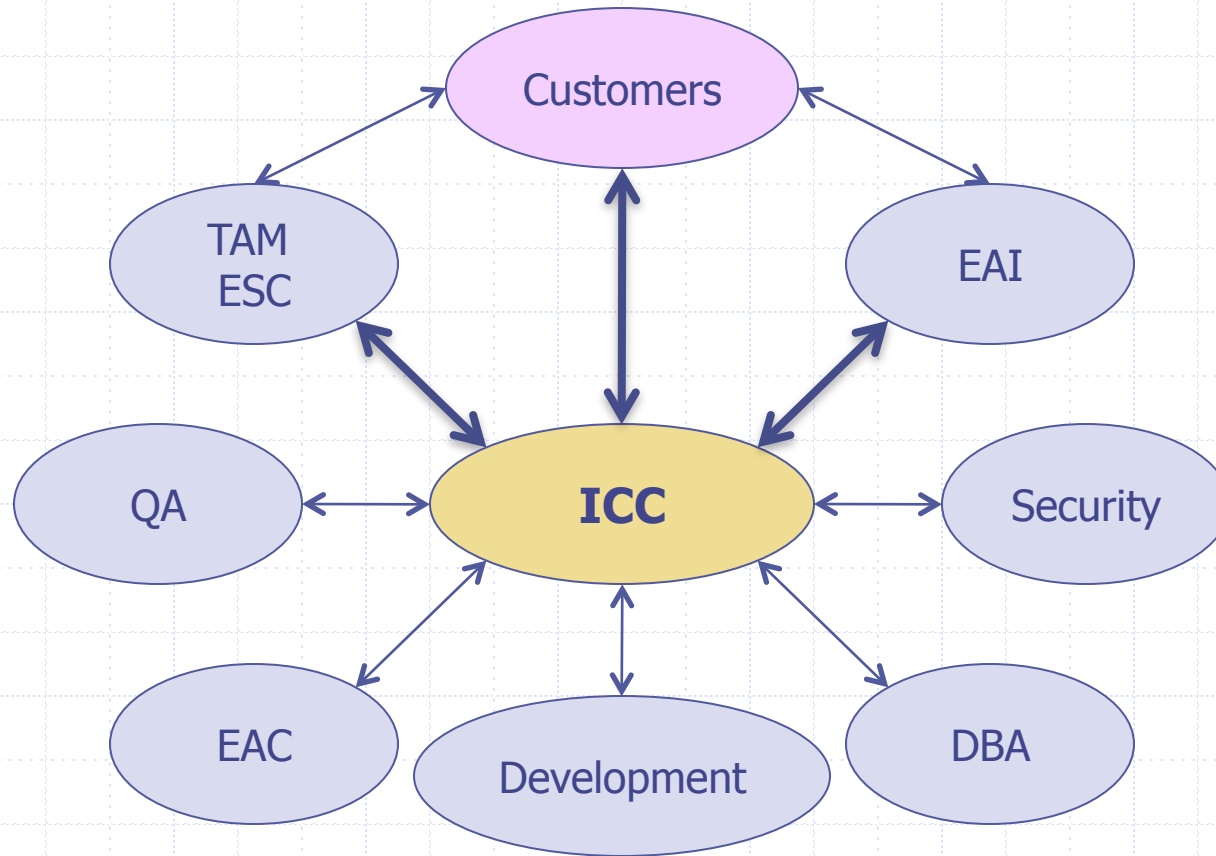


Providing Efficient and Effective  
Access to Enterprise Data

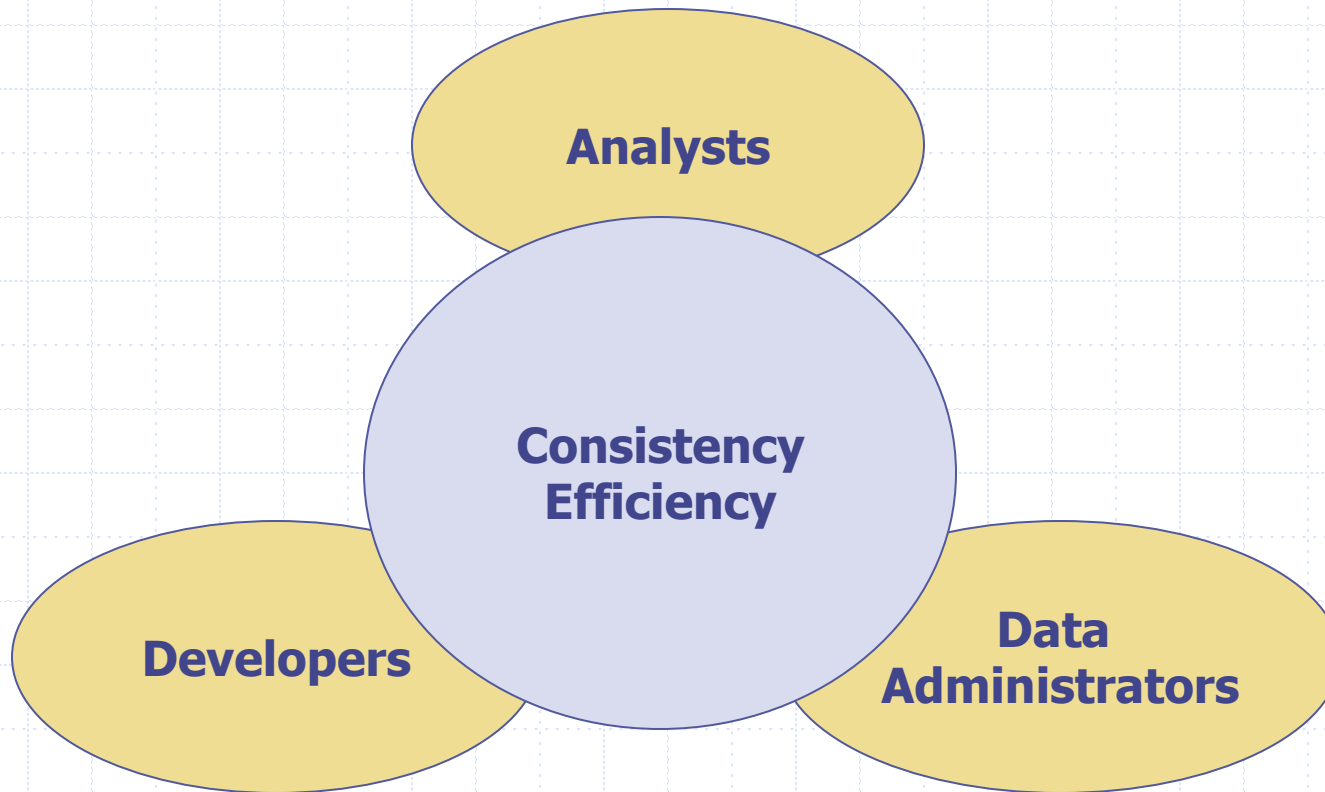
# Our Mission

*The ICC was formed to identify, implement and execute standards and best practices for a service-oriented architecture based on the business requirements of the university.*

# Our Approach



# Our Structure



# How can ICC help?

- Providing Infrastructure
- Advising Project Teams
- Coordinating Integration Projects
- Training Resources
  - Integration Analysis
  - Sample Code
- Testing Integrations

# What is an Integration Project?

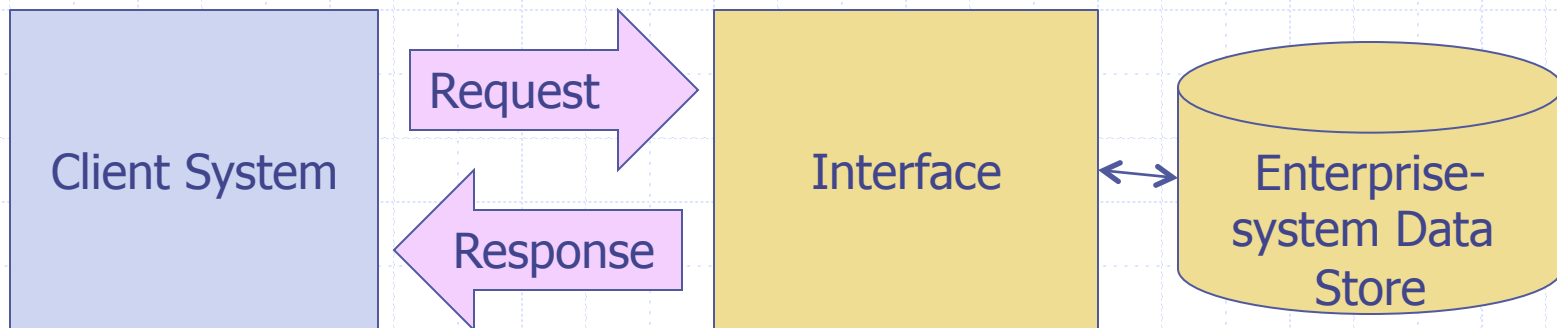
- Real-time integration with Enterprise Systems
- Synchronization with Enterprise Systems
- EAS Authentication

# What is an Enterprise System?

- Enterprise = university-wide
- “System of Record” or “Authoritative Source”
- Examples today
  - Banner
  - i-Card
  - Enterprise Authentication System (EAS)
  - Vendor Services Application (VSA)

# Real-time Integrations

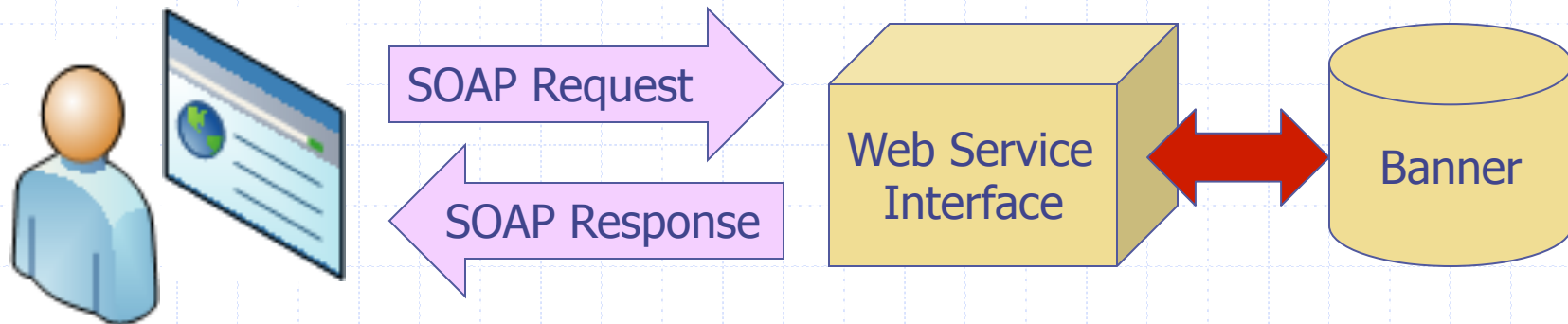
- Querying, Creating, Updating, Deleting in Real-time
- Interface Options
  - Web Services
  - Java Message Service (JMS)





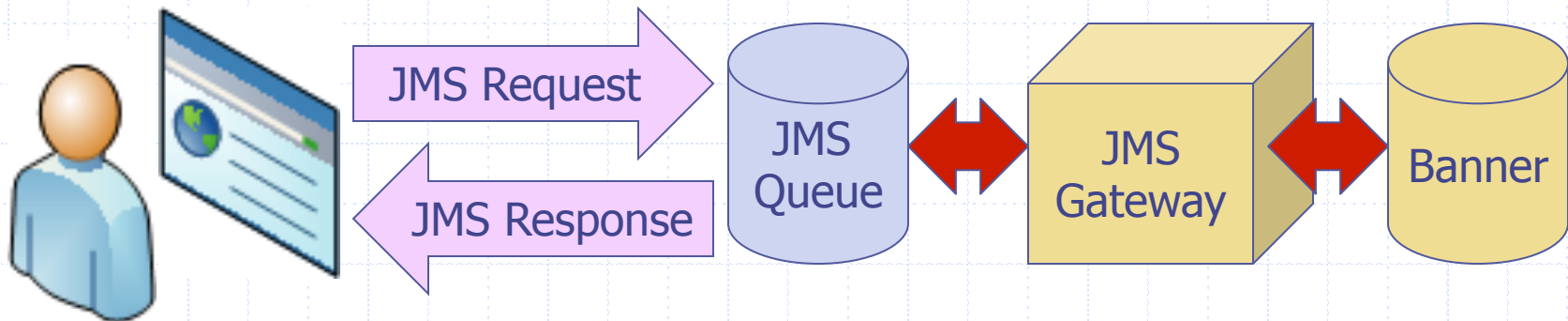
# Example: Accept Online

- Web Service provides interoperability
- Requests can
  - handle segregation of data by campus
  - update Banner data



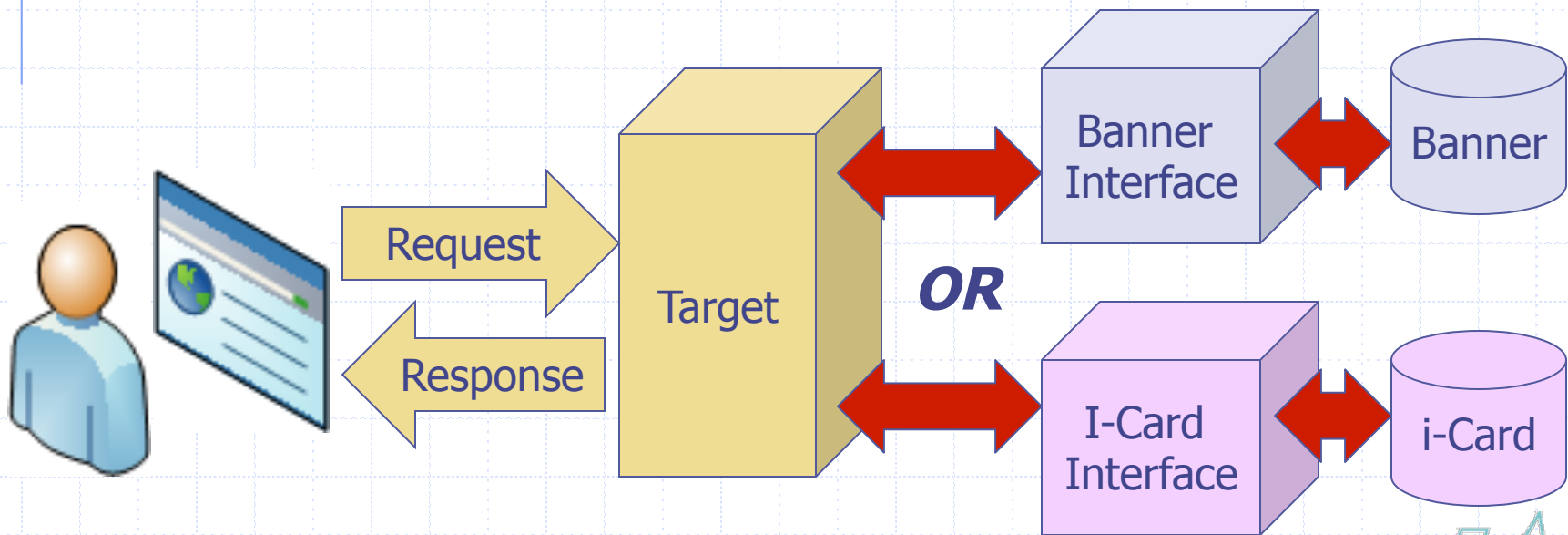
# Example: uPortal

- JMS provides robust infrastructure
- Requests can
  - handle segregation of data by campus
  - update Banner data



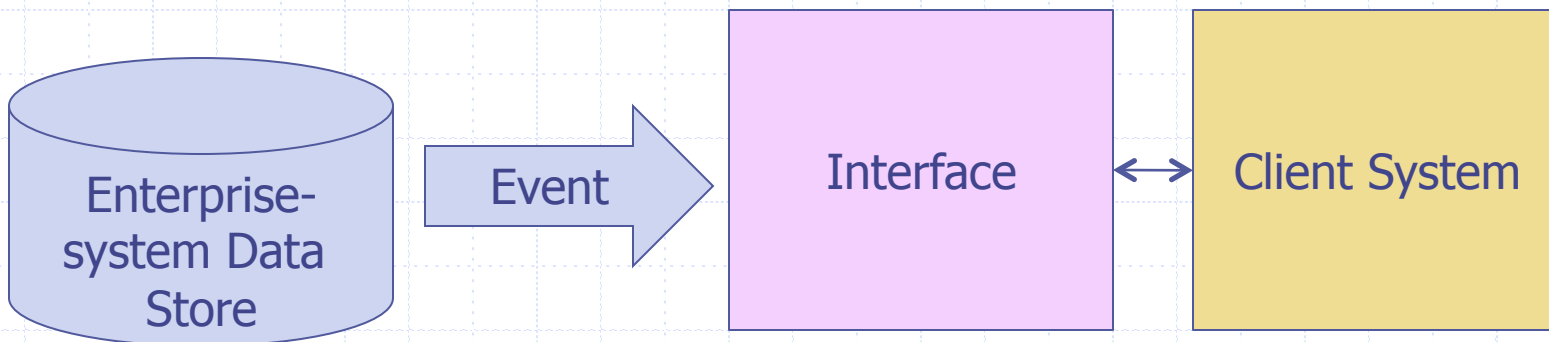
# Example: Nessie

- Infrastructure complexity is hidden
- Integration model provides flexibility



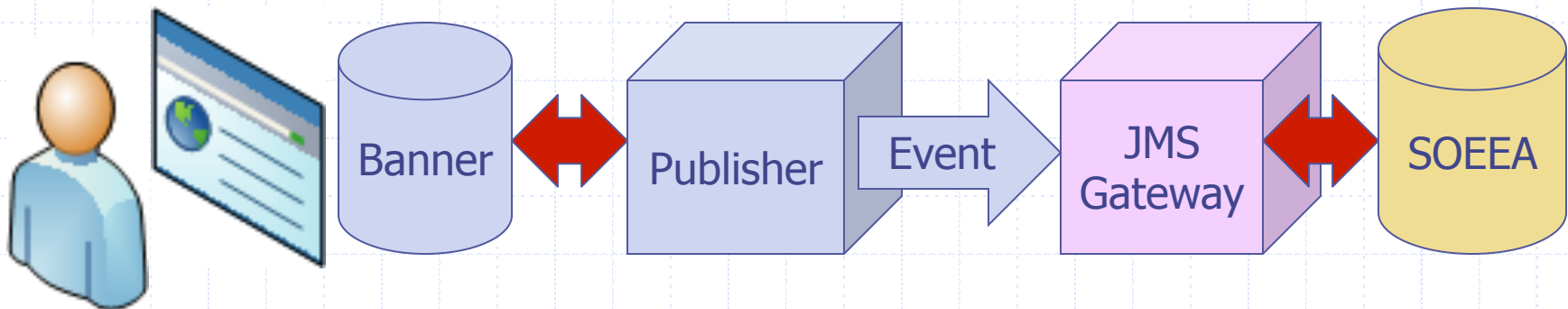
# Synchronization

- Notification of changes to Enterprise Data
- Interface Options
  - JMS
  - Web Services coming soon...



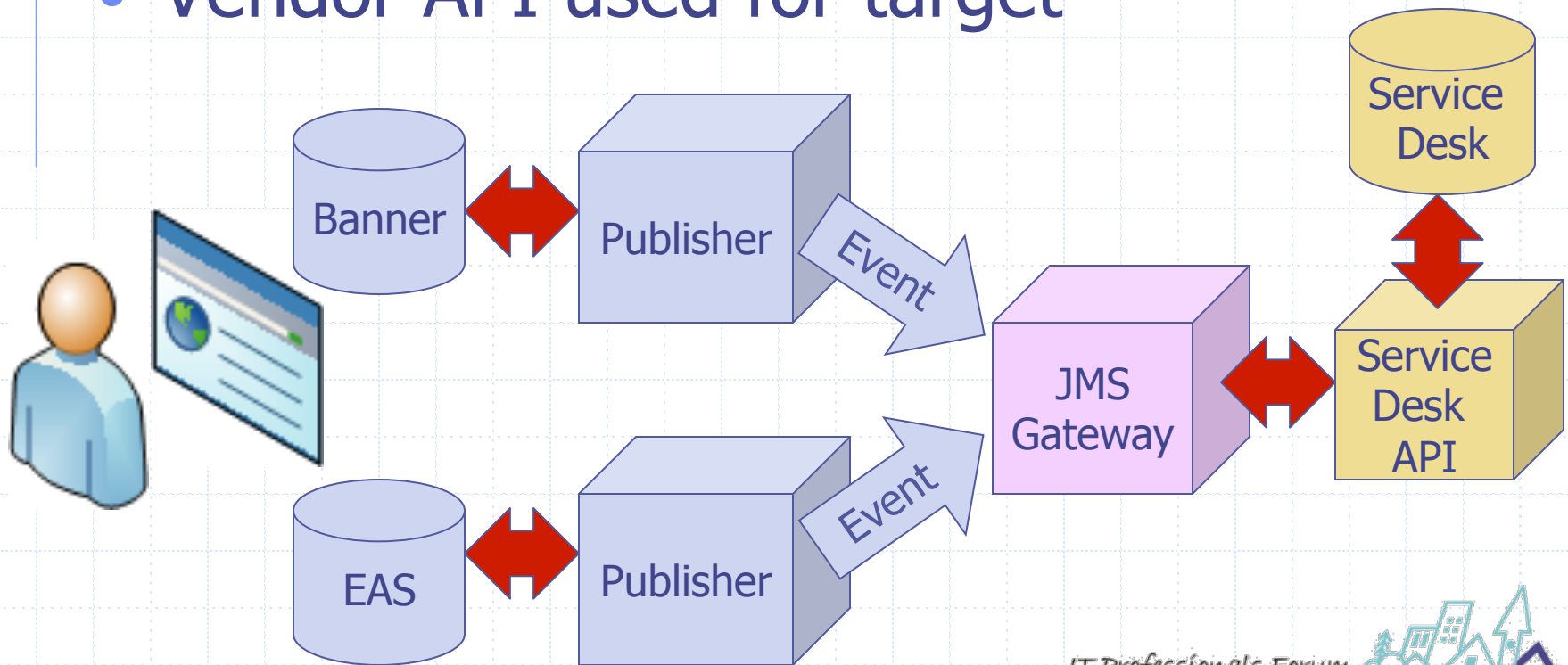
# Example: SOEEA Time Reporting

- Notification of Banner data changes
- New users created automatically



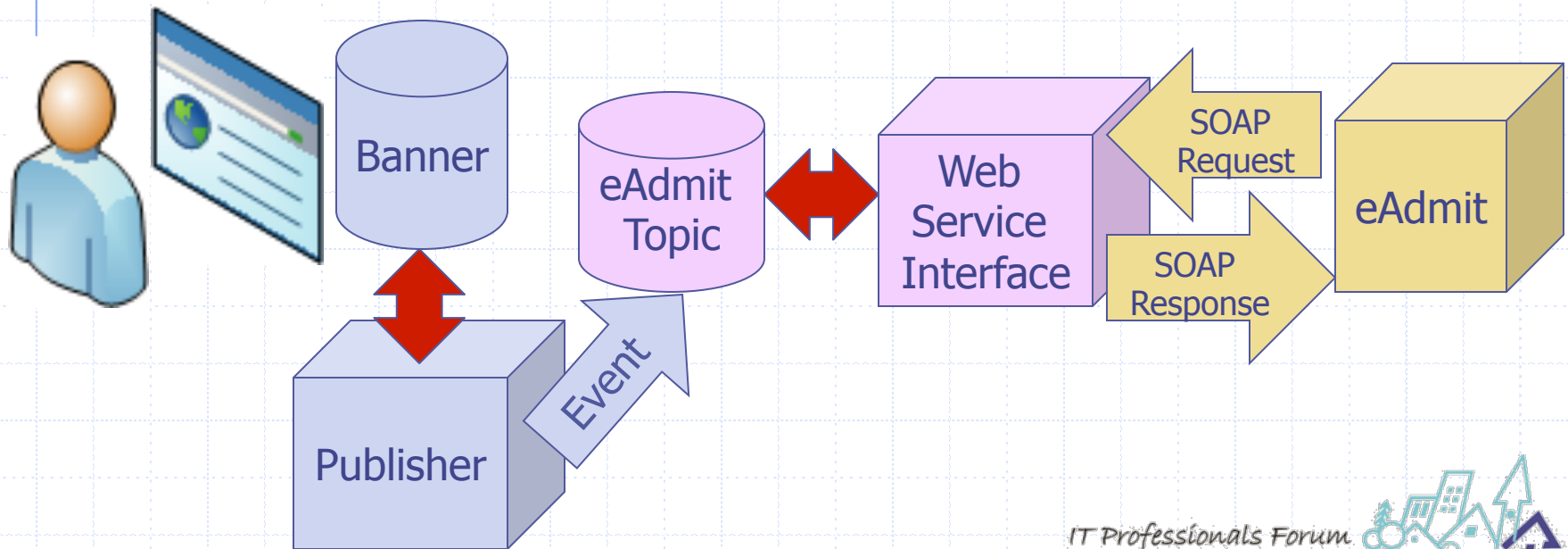
# Example: Service Desk

- Notification from multiple sources
- Vendor API used for target

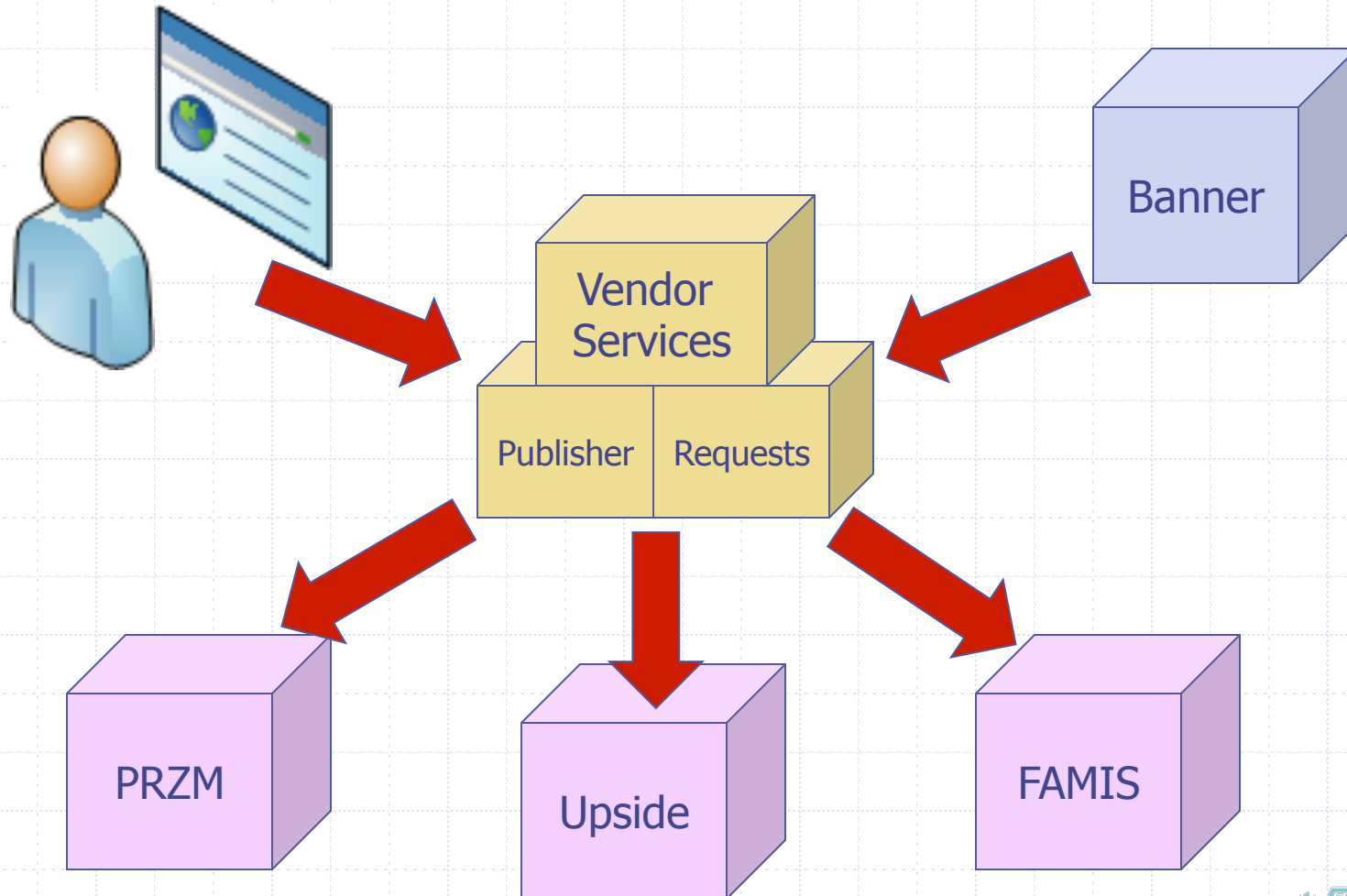


# Example: eAdmit

- Web Service provides interoperability
- JMS provides robust infrastructure



# Example: Vendor Services





# EAS Authentication

- For any university Web application
- Multiple options
  - Standard EAS Authentication
    - University applications – Banner, Nessie, etc.
    - External applications – HireTouch, NSC, etc.
  - Trusted Prior Authorization
    - uPortal
    - Campus libraries online (Global Campus)

# How to involve ICC

- Contact us: [iccrequests@uillinois.edu](mailto:iccrequests@uillinois.edu)
- Typical request process
  1. Initial contact
  2. Needs-assessment meeting
  3. Formal request for work – ITPC or WR
  4. Project resources and priority assigned
  5. Execution (Analysis, Development, etc.)

# First Steps for an ICC Project

- Integration Overview
  - Provides an overview of the integration
  - Identifies components involved
  - Details the required changes
- Enterprise Object Template
  - Defines the structure of the object
  - Maps structural elements to a data source

# For more information

- Available Enterprise Objects
  - <http://www.aitis.uillinois.edu/>
  - Follow “Enterprise Data” menu
  - SOA Registry coming soon...
- Service Guides available upon request

# Questions?



## Integration Options

|                              | Your Need  | Message Type     | Message Category                             | Initiator                               | Intent   | Comments  |
|------------------------------|--|------------------|--|---|--|---|
| <b>Real-Time Integration</b> | You need to send a data addition from an approved outside system to the Enterprise System (ex. Banner) | Create-Request   | Request/Reply<br>[aka. Point to Point (P2P)] | Approved Client System                  | Create new row(s) of data immediately                      | Timeliness is paramount<br><br>Requires a 'conversation' (a request and a response) |
|                              | You need to send a data deletion from an approved outside system to the Enterprise System (ex. Banner) | Delete-Request   | Request/Reply<br>[aka. Point to Point (P2P)] | Approved Client System                  | Delete row(s) of data immediately                          | Timeliness is paramount<br><br>Requires a 'conversation' (a request and a response) |
|                              | You need to ask an Enterprise System to generate some information for you (ex. Enterprise ID, UIN)     | Generate-Request | Request/Reply<br>[aka. Point to Point (P2P)] | Approved Client System                  | Generate something immediately (like Enterprise ID or UIN) | Timeliness is paramount<br><br>Requires a 'conversation' (a request and a response) |
|                              | You need to send a data revision from an approved outside system to the Enterprise System (ex. Banner) | Update-Request   | Request/Reply<br>[aka. Point to Point (P2P)] | Approved Client System                  | Update row(s) of data immediately                          | Timeliness is paramount<br><br>Requires a 'conversation' (a request and a response) |
|                              | You need to request information from an Enterprise System (ex. Banner)                                 | Query-Request    | Request/Reply<br>[aka. Point to Point (P2P)] | Inquiring System                        | Query row(s) of data immediately                           | Timeliness is paramount<br><br>Requires a 'conversation' (a request and a response) |
|                              |  | Provide-Reply    | Request/Reply<br>[aka. Point to Point (P2P)] | Authoritative Inquiree System           | Provide data requested in Query-Request                    |   |
| <b>Synchronization</b>       | You need to keep track of data additions in an Enterprise System (ex. Banner)                          | Create-Sync      | Publication/Subscription (Pub/Sub)           | Authoritative Source System (Publisher) | Here are new row(s) of data; do with it what you will      | Timeliness is important, but a few minutes isn't a problem                          |
|                              | You need to keep track of data deletions in an Enterprise System (ex. Banner)                          | Delete-Sync      | Publication/Subscription (Pub/Sub)           | Authoritative Source System (Publisher) | Here are deleted row(s) of data; do with it what you will  | Timeliness is important, but a few minutes isn't a problem                          |
|                              | You need to keep track of data revisions in an Enterprise System (ex. Banner)                          | Update-Sync      | Publication/Subscription (Pub/Sub)           | Authoritative Source System (Publisher) | Here are updated row(s) of data; do with it what you will  | Timeliness is important, but a few minutes isn't a problem                          |

# Administrative Information Technology Services (AITS) Integration Competency Center (ICC)

*Providing Efficient and Effective Access to Enterprise Data*

| Resources |                    |  |              |
|-----------|--------------------|--|--------------|
| Contacts  | ICC Requests       | <a href="mailto:iccrequests@uillinois.edu">iccrequests@uillinois.edu</a>                                     |              |
|           | Marc Carlton       | <a href="mailto:marcc@uillinois.edu">marcc@uillinois.edu</a>   | 217.244.9576 |
|           | Marla McKinney     | <a href="mailto:mmckinne@uillinois.edu">mmckinne@uillinois.edu</a>   | 217.333.4058 |
|           | Jean Schaffner     | <a href="mailto:jschaffn@uillinois.edu">jschaffn@uillinois.edu</a>   | 217.333.7585 |
|           | Suzanne Zelle      | <a href="mailto:szelle@uillinois.edu">szelle@uillinois.edu</a>   | 217.244.0333 |
| Data      | Enterprise Objects | <a href="http://www.aits.uillinois.edu/">http://www.aits.uillinois.edu/</a><br>Follow "Enterprise Data" menu |              |
|           | Service Guides     | Available upon request   |              |
|           | SOA Registry       | Coming soon  |              |



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