

# Enterprise Workflow

Jim Phelps  
UW-Madison

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## Next Up

- Historical Presentation 2002
- Talk about Current Status
- Discuss our plans for the future

# Enterprise Workflow

Enterprise Workflow  
Team

Phase 1 Report

November 2002

# Definition of Workflow

- Workflow: The automation of a business process, in whole or in part, in which work items (objects) are passed from one participant (role) to another for action, according to a set of procedural rules (business rules).<sup>1</sup>
- Enterprise Workflow (E.W.): Workflow that is campus wide and spans multiple ERP applications.
- E.W. is less of a product and more of a unifying framework and a measure of enterprise application integration.

<sup>1</sup> John Mann, "Workflow and Enterprise Application Integration", [www.ebizQ.net](http://www.ebizQ.net)

# Examples

- High Volume Work with Many Workers
  - Purchase Orders, Insurance Claims, New Hires
- Seldom Performed Work with Complex Rules
  - Year-end Accounting, Taxes
- Highly Parallel Work
  - Shotgun Gene Sequencing - Human Genome Project

# Current Capabilities

- ERP Packages: Lawson, PeopleSoft and Oracle
- Content Management and other Systems
- In-house applications

# PeopleSoft Workflow

- Part of PeopleTools
- In production for Student Financial Services: *Return of Title IV Funds*.
- Seven other prototypes built, not in ISIS upgrade:

|                   |                      |
|-------------------|----------------------|
| Grade Change      | Dean's Actions       |
| Honors and Awards | Service Indicators   |
| Drops             | Program/Plan Changes |
| Repeat Changes    |                      |

# Oracle Workflow

- Stand-alone development tool which can link to any Oracle DB.
- Core technology of Oracle Apps 11i (Platform for CBS).

|  |
|--|
| ADI New Hire prototype use by PA staff             |
| WiscCare/CBS payment integration                   |
| Demo for Office of Quality Assurance               |
| Working with DRMT to implement a production system |

# Content Management Systems

## DocuShare

- Authoring and editing workflow.

## Oracle iFS (Internet File Server - similar features to DocuShare)

- WebCT Vista built on this system.
- This will use the Oracle Workflow engine.
- Will control the flow of documents from students to faculty.

# And what about...

CIS System on Platform - homegrown change management system

DoIT's Travel Approval System

Discretionary Compensation Adjustment (DCA)

*Not to mention...*

all of the people running around Campus getting forms signed by Deans, Chairs, etc...

# Current Capabilities

- DoIT has several workflow solutions in place at various levels of the organization.
- Enterprise Workflow might take advantage of these systems.

# Peer Institutions

A questionnaire about Enterprise Workflow was sent out to CIC mailing list and the CSG mailing list. We also talked with individuals at various meetings around the country.

We received the following replies...

# Peer Institutions

- 1 Institution has an Enterprise Workflow solution.
- 2 Others are building their own.
- Most are like us: using the workflow capabilities within major applications.

# The Analysis of Enterprise Workflow (E.W.)

- 1) Key Components
- 2) Sample Architecture
- 3) Critical Success Factors

# Key Components for E.W.

|                        |                                    |   |
|------------------------|------------------------------------|---|
| <b>Authoring</b>       | Process Design Assistance          | Templates, Automatic Completeness Checking, GUI                     |
|                        | Creating Transparency              | Formalizing Processes, Making Rules Public, Assisting with Training |
| <b>Run Time</b>        | Flow Control                       | Messaging, Queuing, Scheduling, Prioritizing                        |
|                        | Object Management                  | Creation/Deletion, Access Control, Routing                          |
|                        | Process Monitoring                 | Rules Enforcement, Reporting, Status Checking                       |
| <b>Auditing</b>        | Process Optimization               | Business Rules, Structure of Workflow, Staffing                     |
|                        | Process Reporting                  | Metrics, Status Checking, Audit Reports                             |
| <b>Version Control</b> | Controlling versions of workflows. | Workflow rules. Multiple active versions.                           |

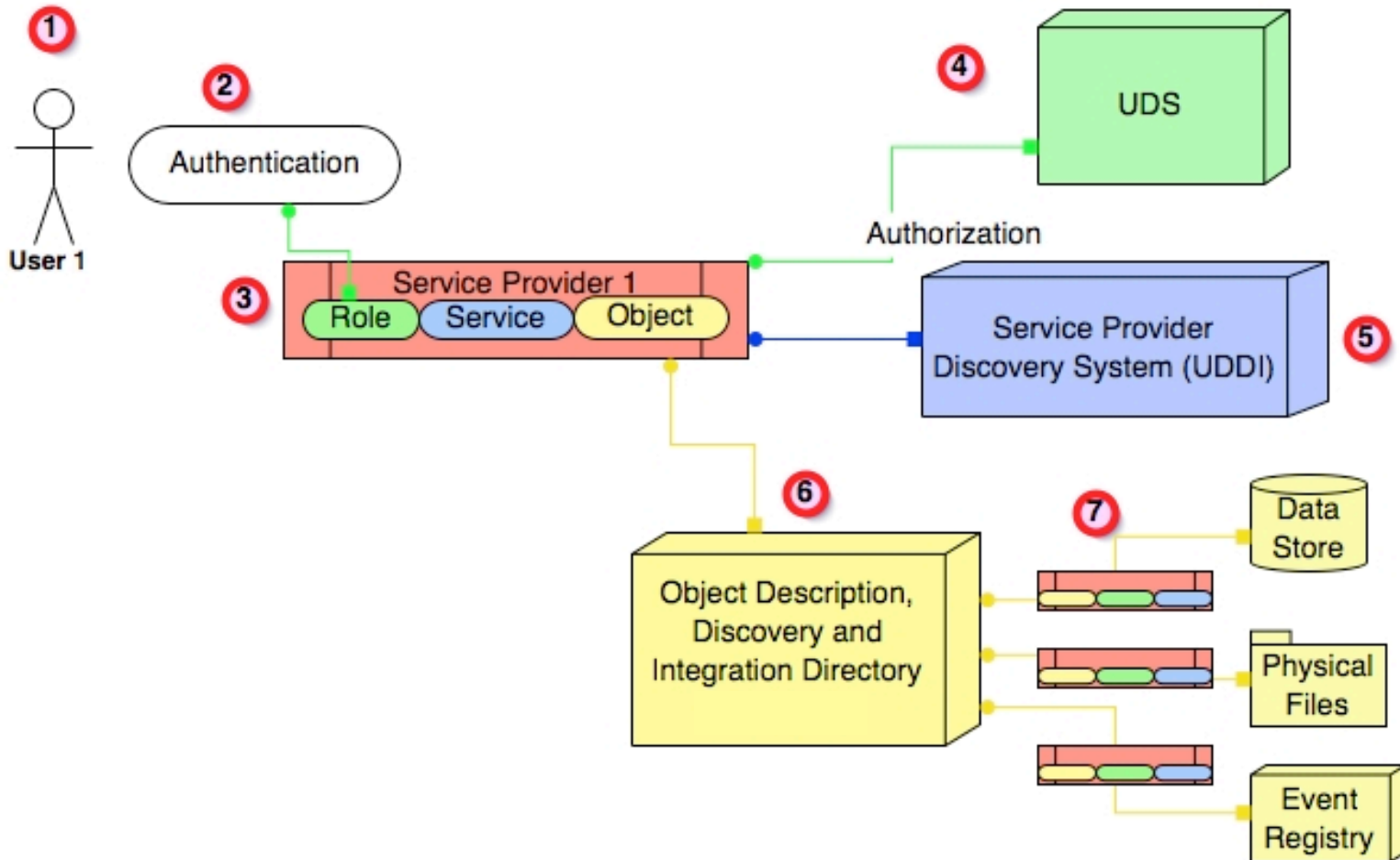
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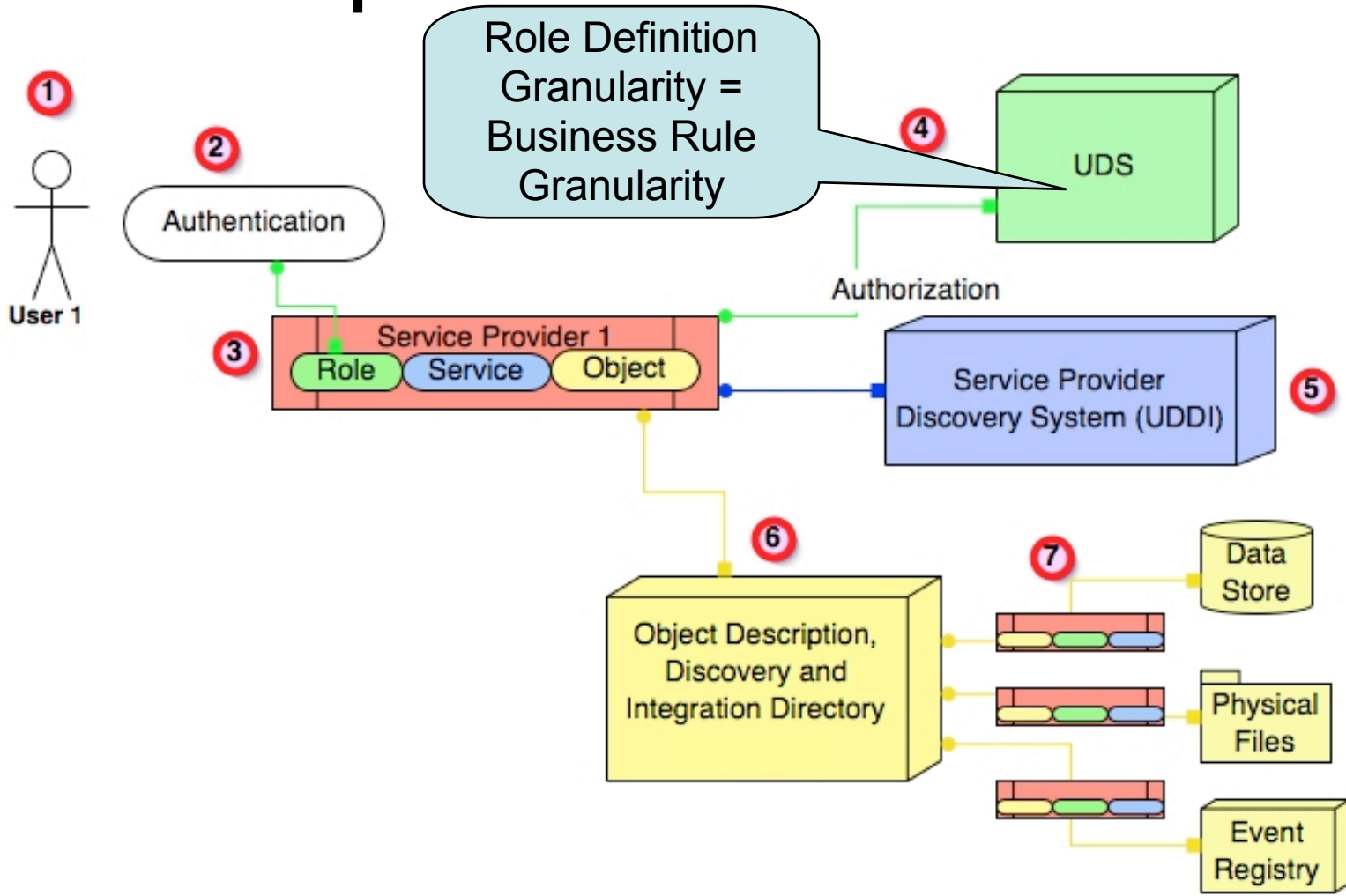
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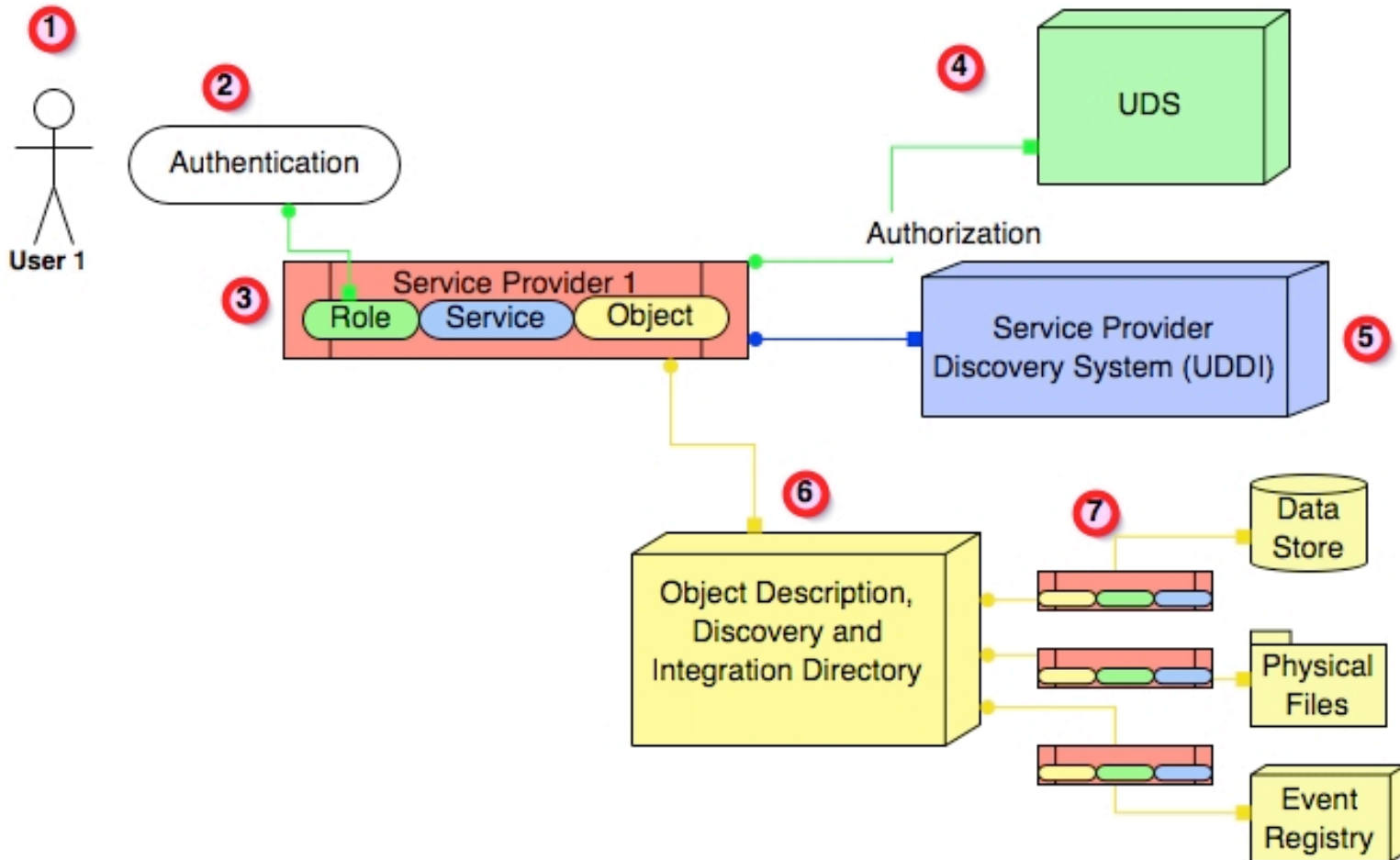
# Sample E.W. Architecture



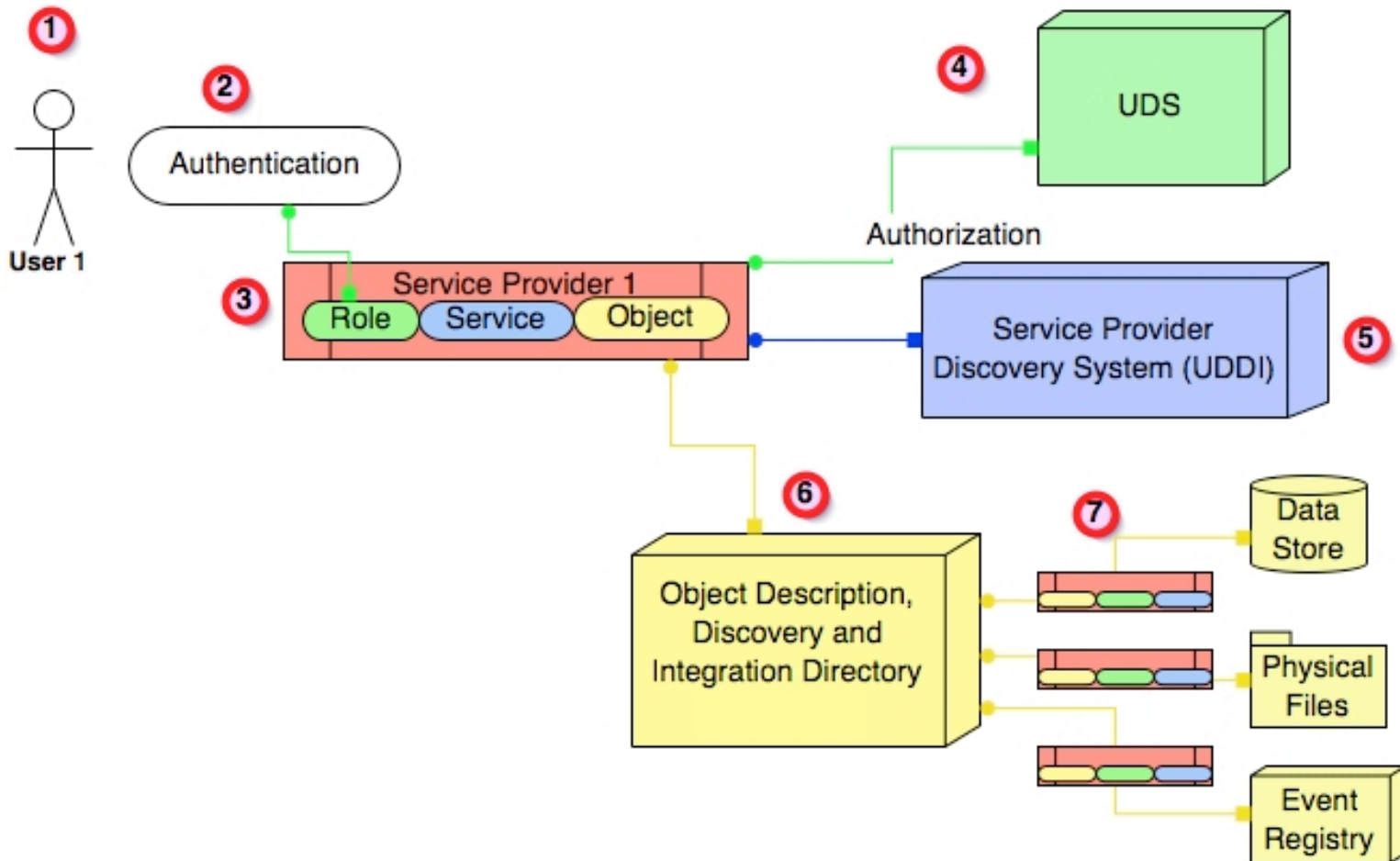
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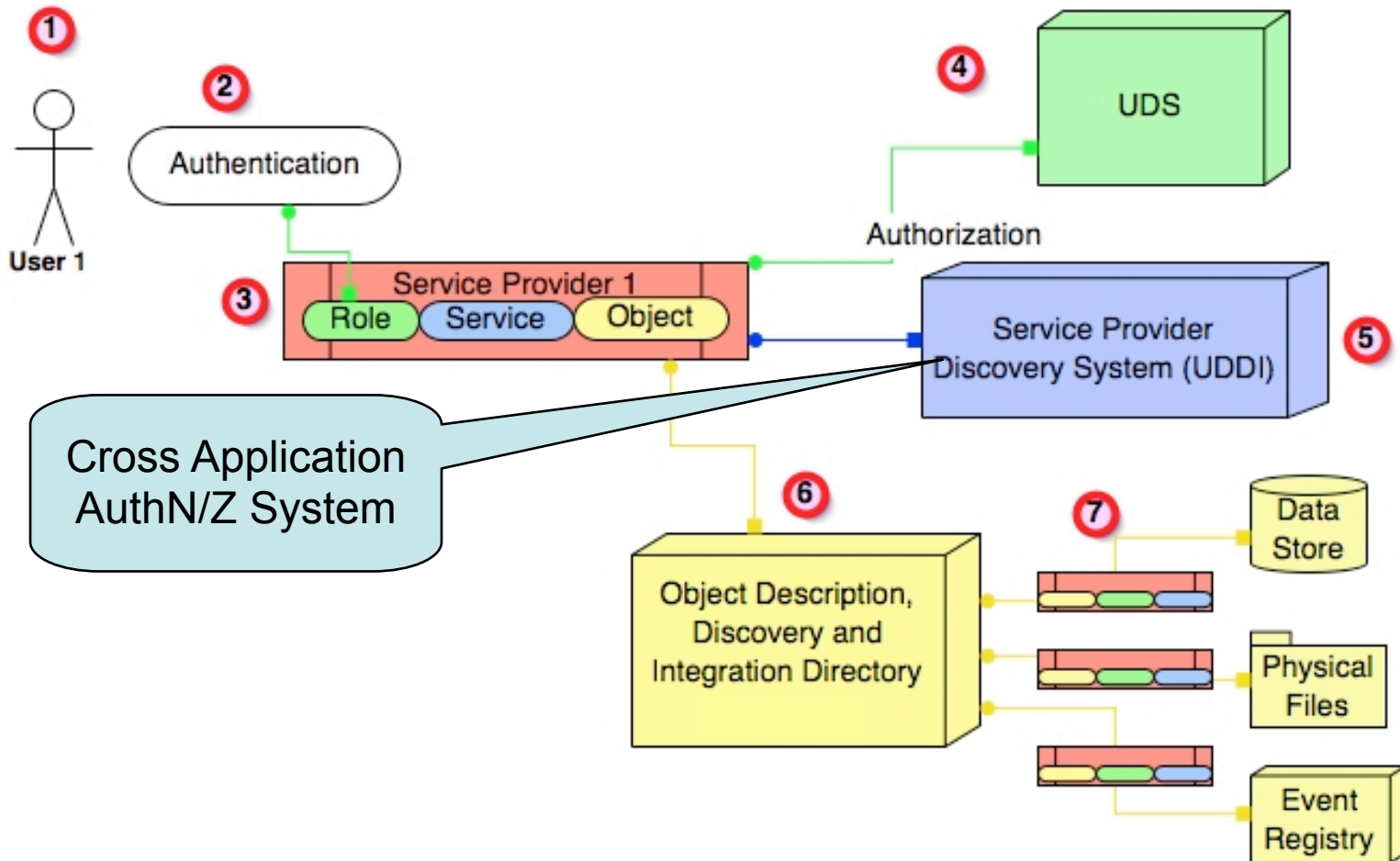
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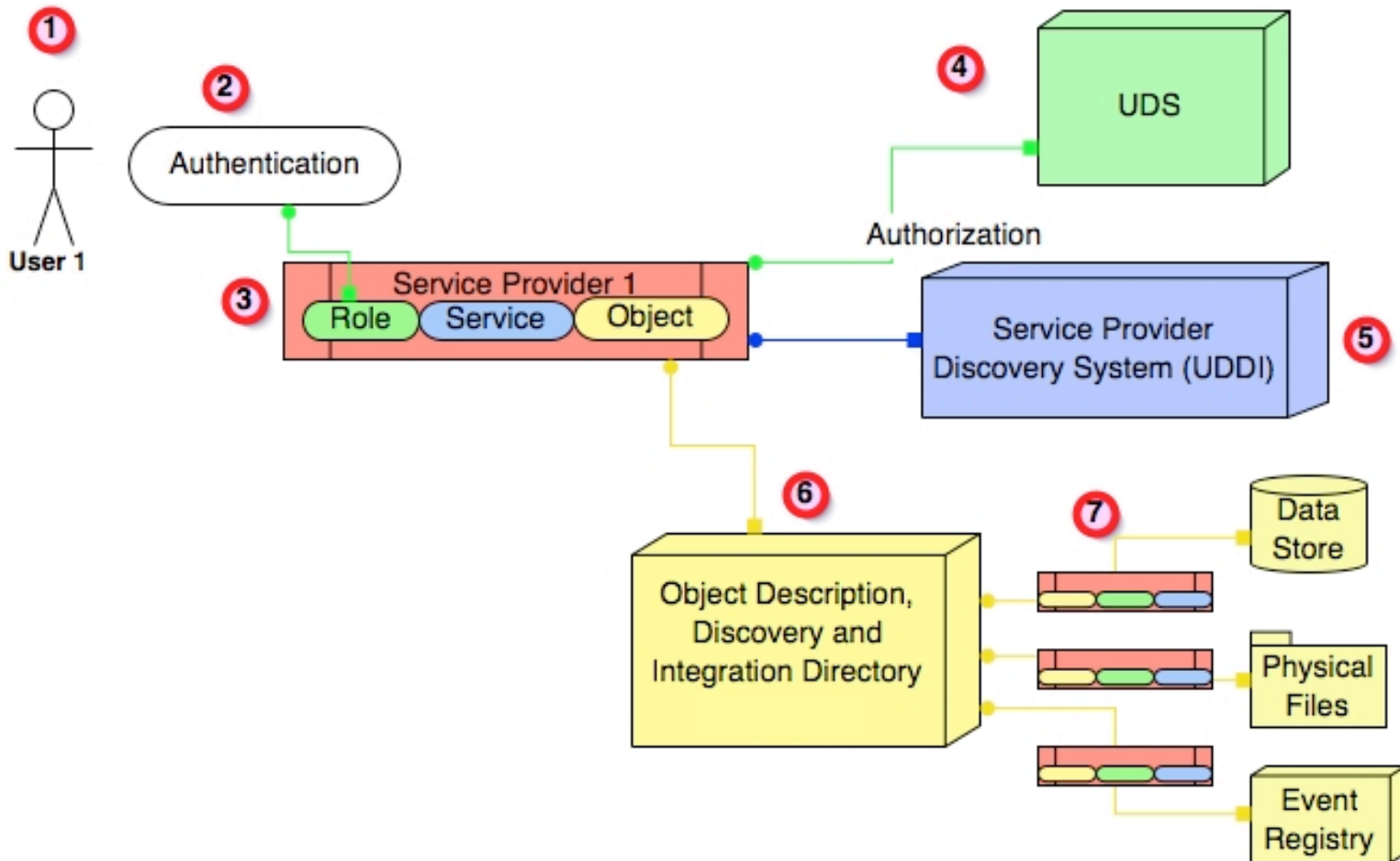
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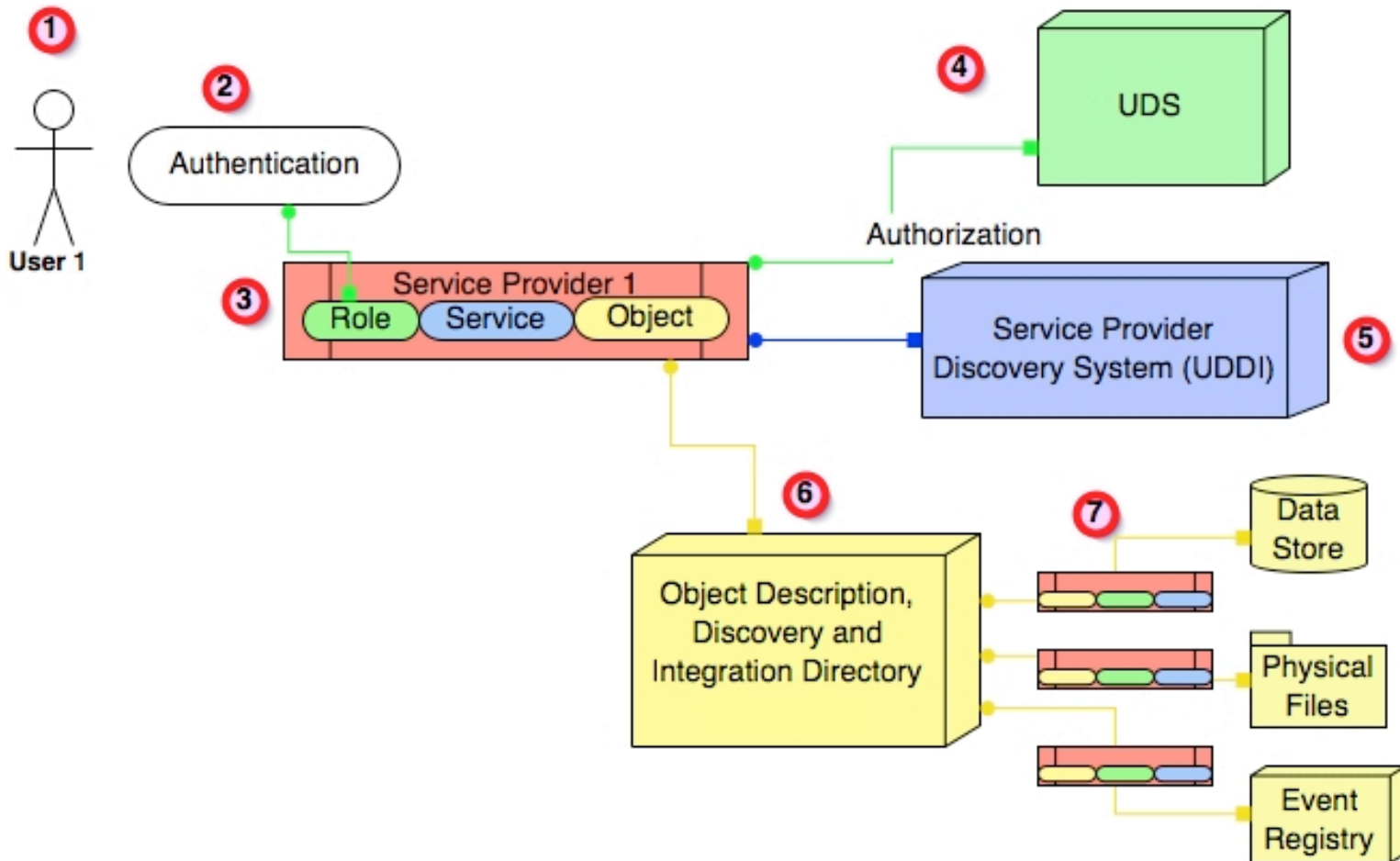
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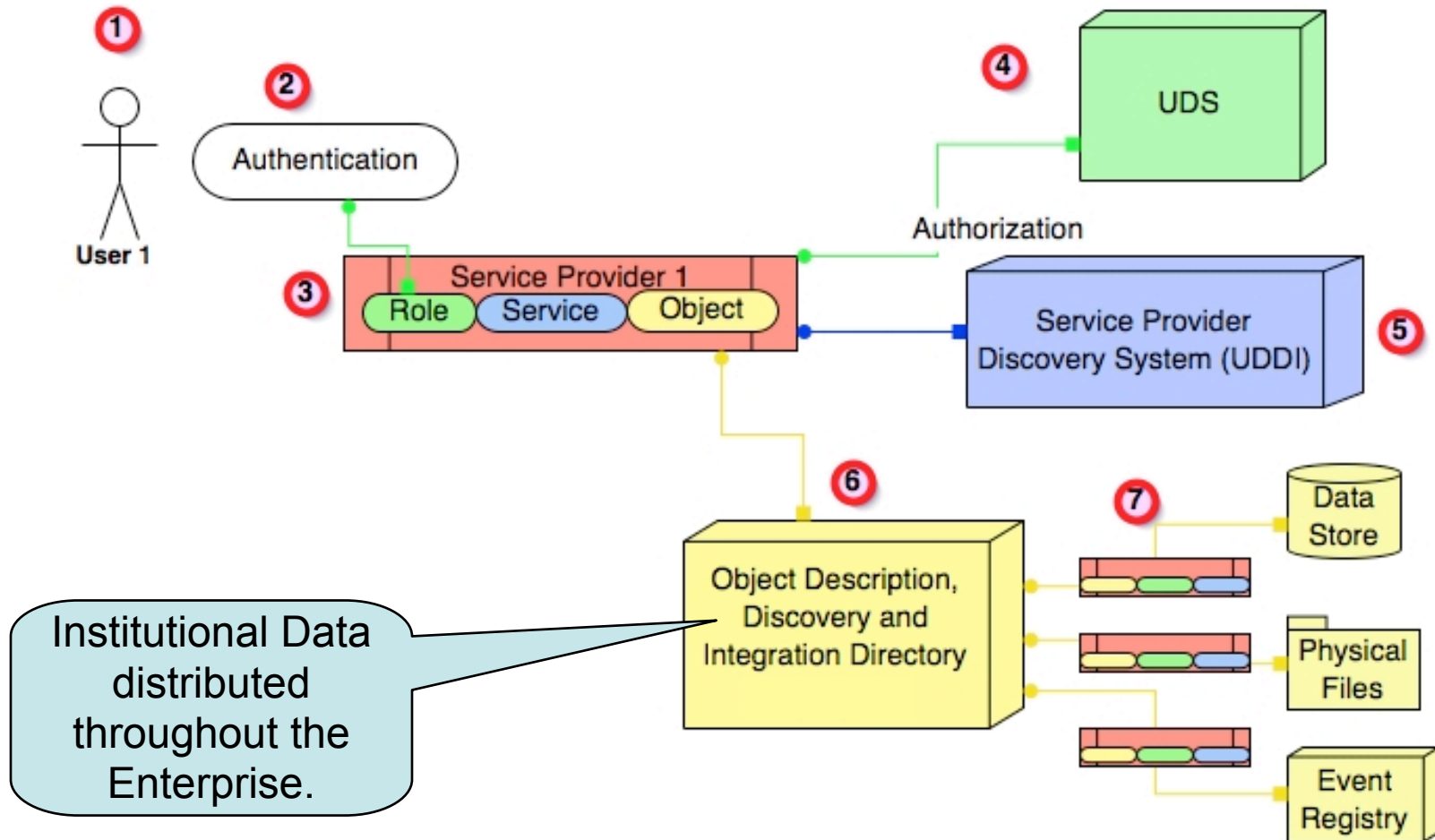
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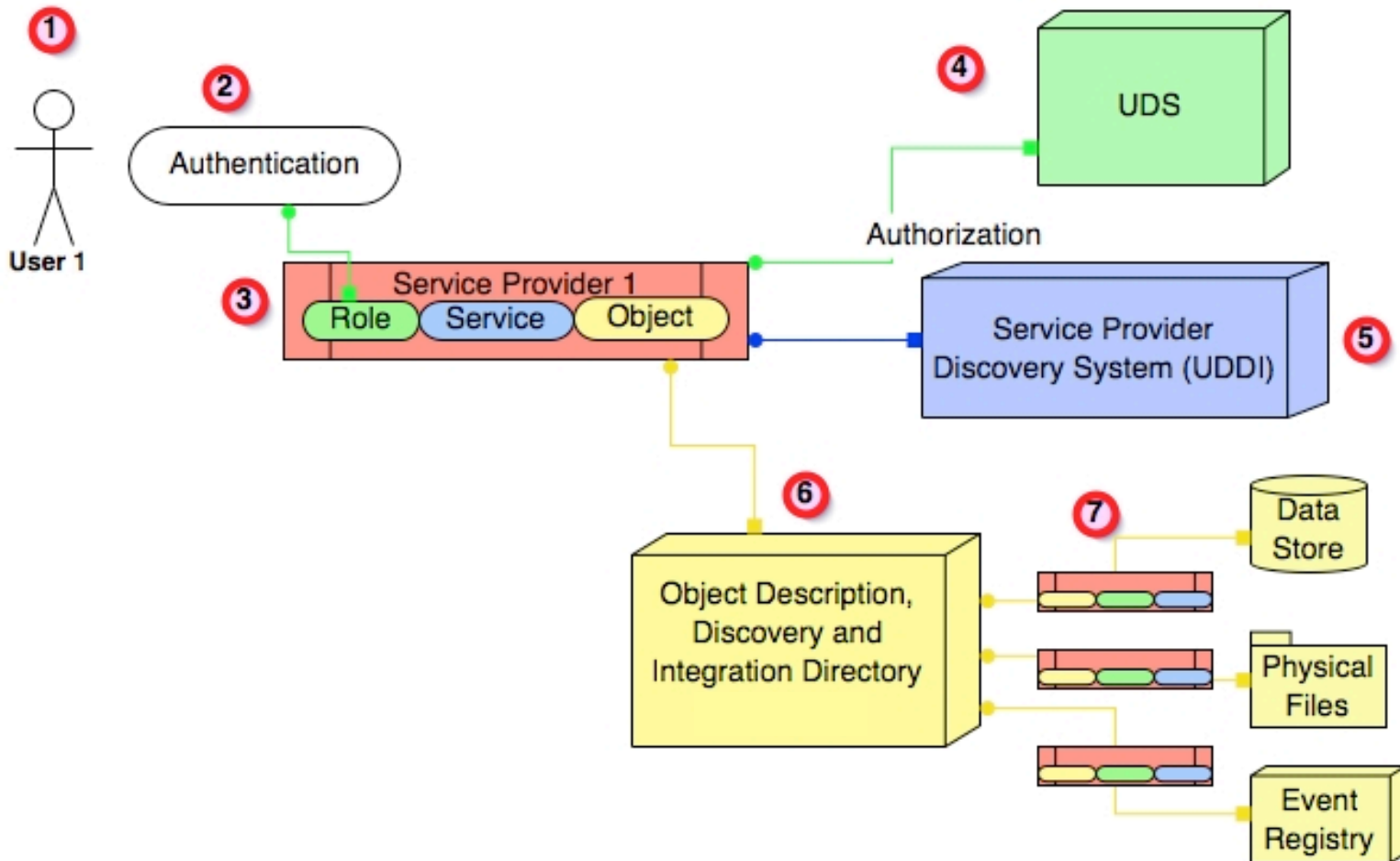
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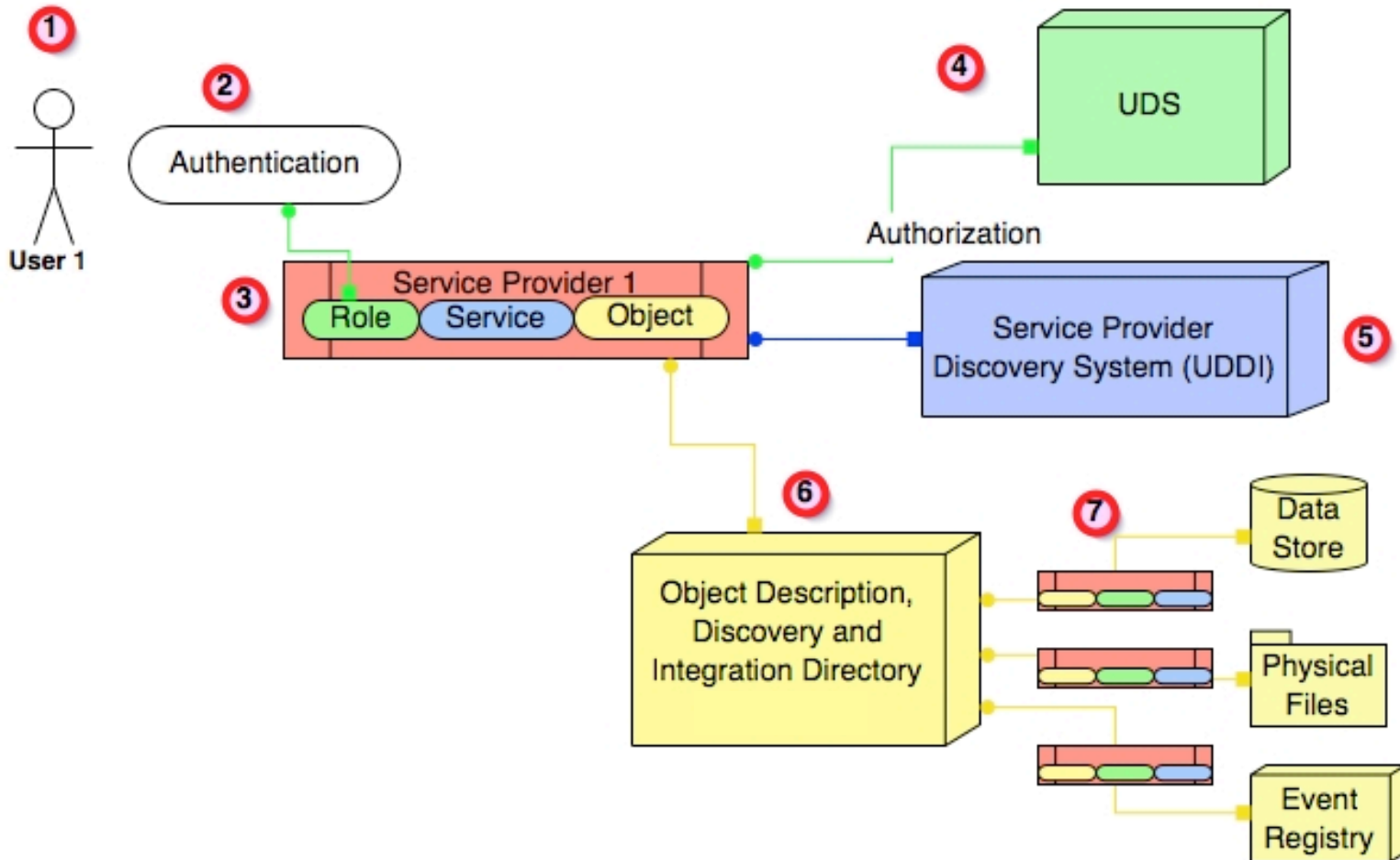
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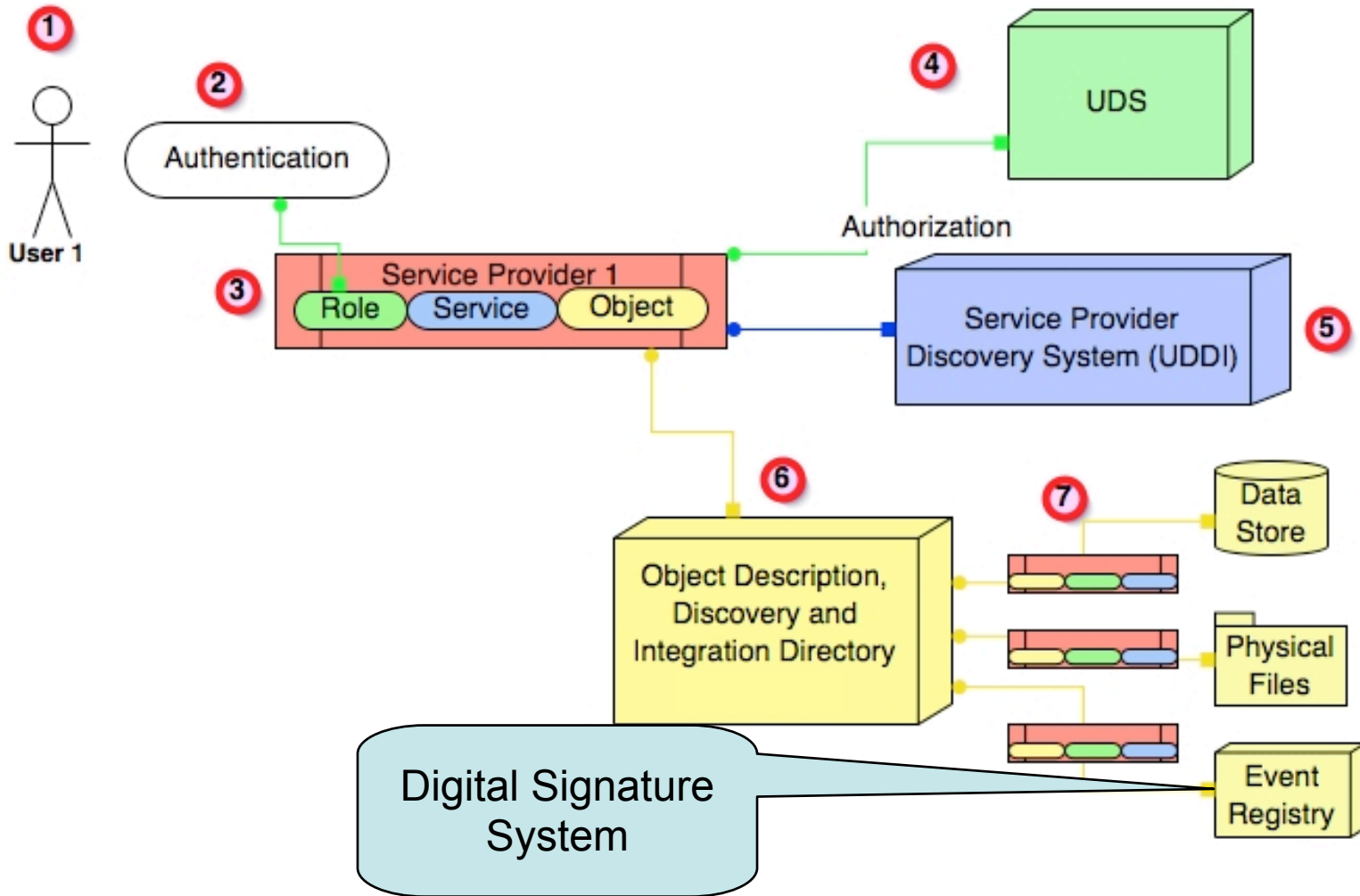
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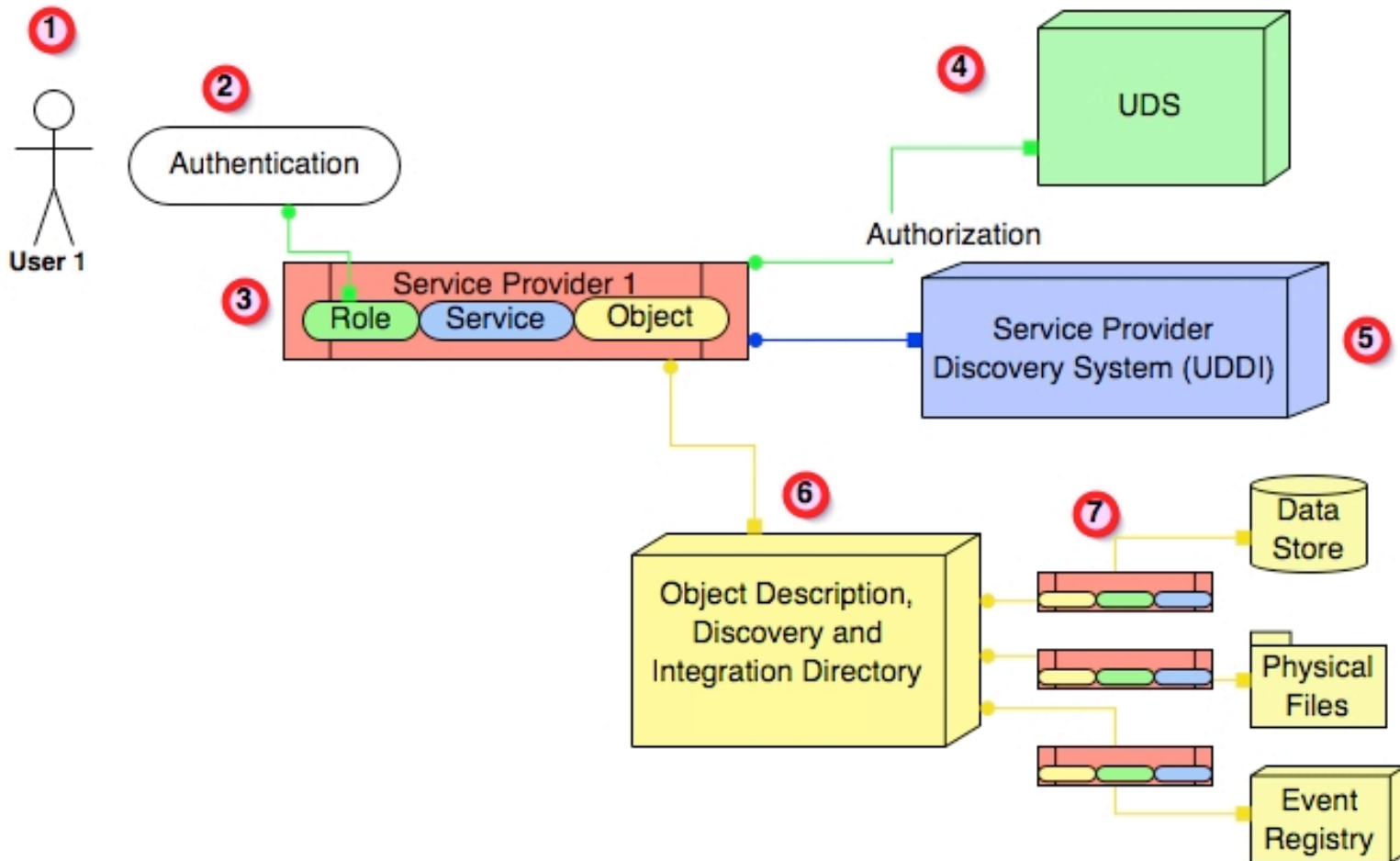
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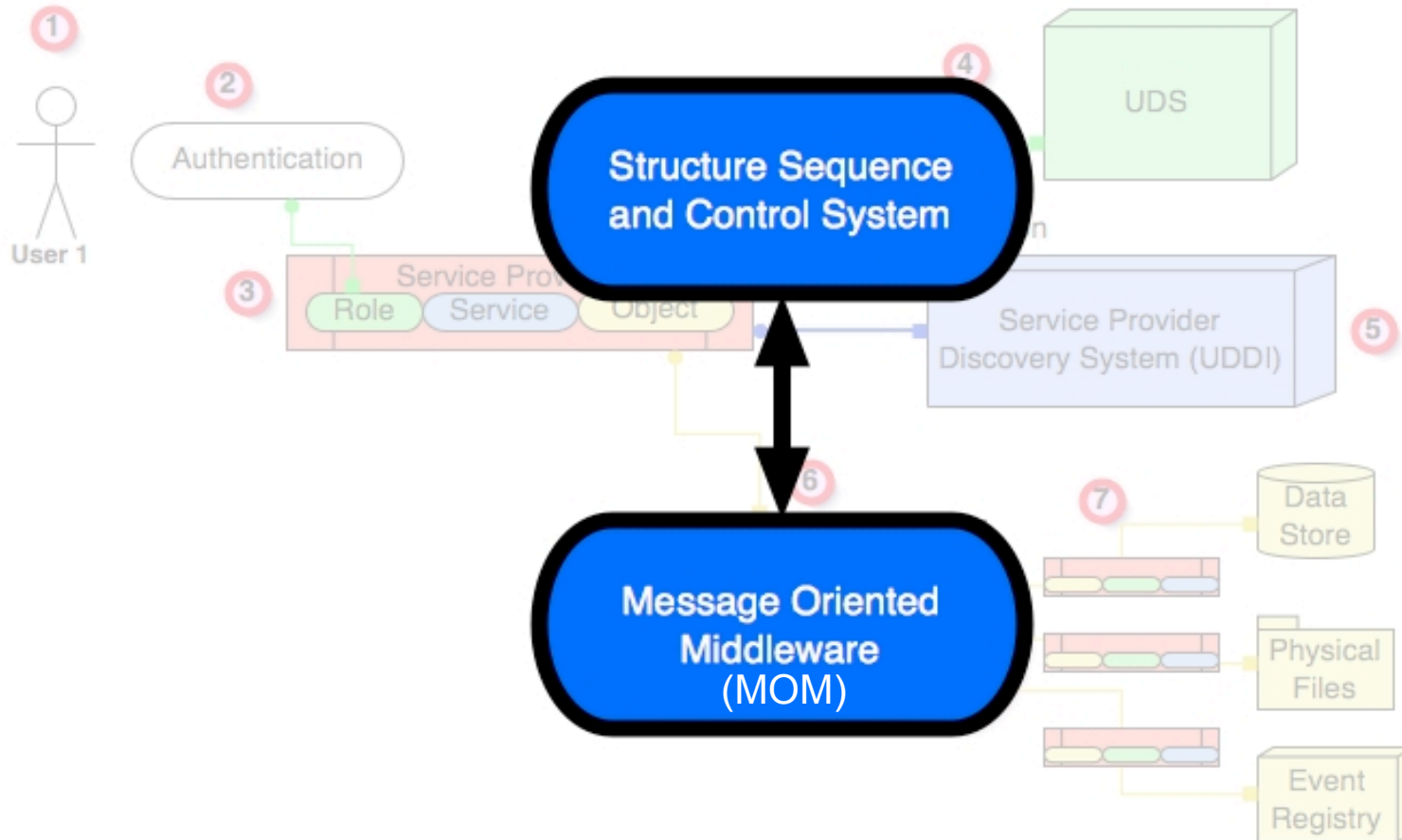
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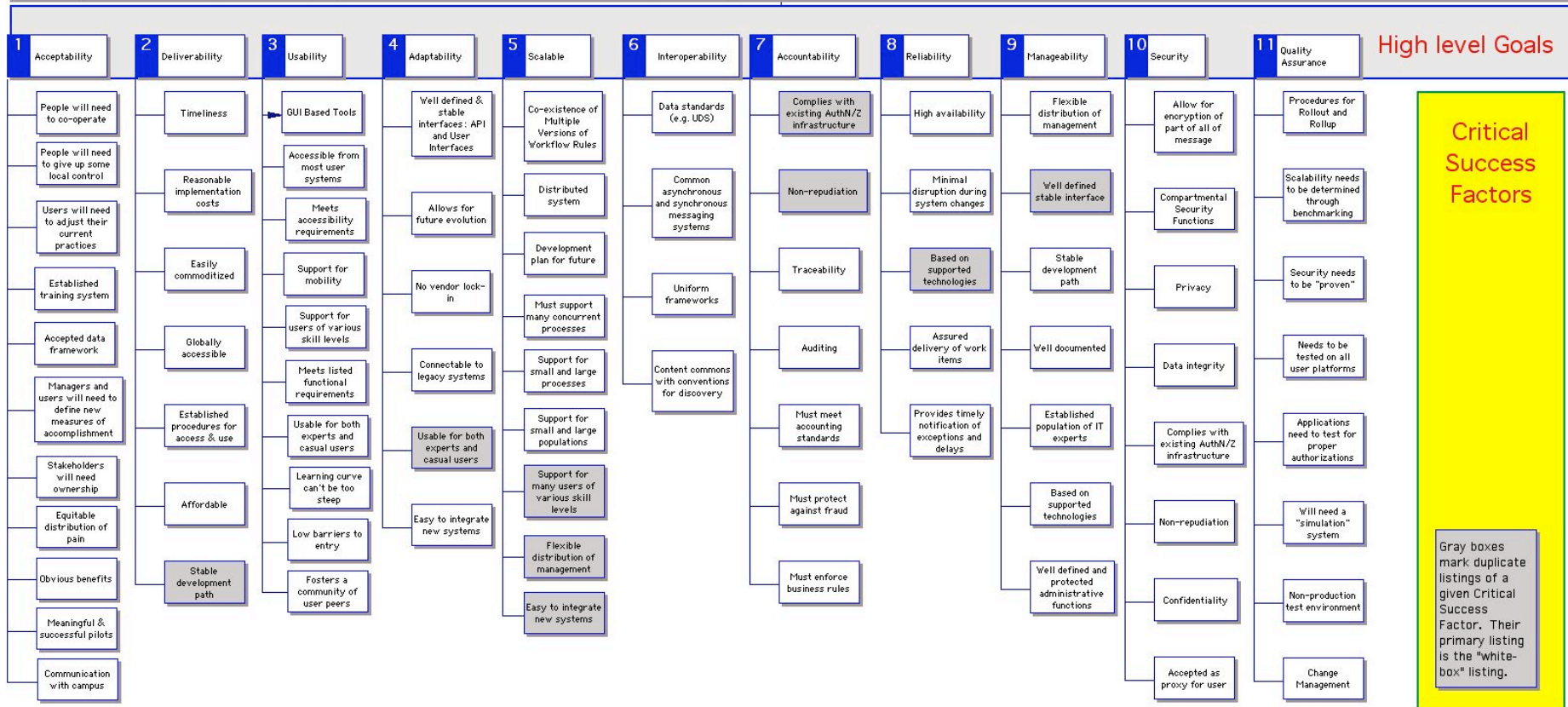


# Sample E.W. Architecture



# Critical Success Factor (CSF) Analysis

Mission Statement: Deploy a system that will help streamline workflow that crosses divisional and system boundaries and is applicable to a variety of constituents.  
 Application Package to be deployed: An institutional Workflow Management System.



# CSF Highlights!

- 14 / 72 CSF have to do with Change Management. (Cultural change, communication, adoption of technology).
- Test and validation environment for the development of the Workflow application.
- Reasonable facsimile of the production environment for developing and debugging individual workflows.
- Distributed management functions with secure access control.

# Summary of the Analysis

- Workflow systems can create transparency.
- Version control will be tricky.
- There are lots of technology gaps:
  - fine grained role definitions, an enterprise authN/Z system, digital signatures, service and object discovery and management systems.
- Change Management, distributed administration and test beds are critical factors.

# Summary - Overall

- Workflow within DoIT applications is ongoing and expanding.
- Enterprise Workflow will expand the definition of Institutional Data and data held in individual offices may become integral to Enterprise Workflow.
- The business rules will need to be thoughtfully analyzed, optimized and documented before the structure of the workflow can be formalized.
- E.W. is less of a product and more of a unifying framework and a measure of enterprise application integration.
- The study of E.W. turned out to be a good gap analysis for future development of enterprise IT.



Back to the present...

## New Needs - New Issues

### Travel Expense Reimbursement System

- Workflow for approval / financial process
- ISSUE: 50% of our “travelers” are from outside.
  - Identity Management Issues
- ISSUE: Integration with other systems
  - Financial System, Credit Card Co(?)
- UW-System Wide Implementation

## Gap 1: Enterprise Roles

- We are deploying Grouper & Signet
- Part of PASE IdM system

## Gap 2: Orchestration et al

- Proof of Concept / Pilot with:
  - WS-\* pile-o-stuff - BPEL, MOM, BPM, ESB, et al.
  - Looking at Oracle, Sun and Open Source
- Service Oriented Architecture Migration
- Event Driven Architecture

## Gap 3: Policy, Governance

- Standardized Business Processes
- Business Process Models
- Who will oversee “workflow” on campus?
  - Will it be domain specific (e.g. This is an HR workflow therefore HR will oversee it)
  - Will there be a general governance group

## Gap 4: Culture Change

- People's jobs will change
  - From “I take care of travel for my people”
  - To “I manage several queues...”
- Standardized Business Processes
  - Grants Quote “We have 1 business process for each PI”

## Gap 5: Integration

- Looking to vendor supplied, standards based Web services
- Our big ERPs are on track for SOA and Web services
- Knit together with WS-\* pile-o-stuff

# The End

- Enterprise Workflow 4 years ago
- The gaps are still there but
  - Filling the Roles and Privileges gap with PASE
  - Filling the Orchestration with WS-\*
- Service Oriented Architecture / Event Driven Architecture as the foundation
- We are working on a strategy for deploying Enterprise Workflow