

**University of Nebraska Omaha**  
**ISQA 4380 Distributed Technologies and Systems**  
**Assignment #1 - Integration Case Study, Middleware Review and**  
**Vendor Analysis with Virtual Presentation**

**Due Date: Submit the assignment link and paper and presentation in Blackboard by Noon on February 7<sup>th</sup>**

**Objectives of this Assignment**

1. To start stimulating critical analysis about distributed systems from historical, technical, operational, and strategic perspectives.
2. Review a middleware product to determine its fit with problems you will be given in class.
3. To give you the opportunity to apply some conceptual frameworks that will better enable you to understand where distributed computing installations fit within the broad field of computing systems.
4. To learn how to create a podcast if you have not done so before.

**Tasks**

1. You will select a middleware technology from a list of middleware that is posted under assignment 1 in blackboard. You will research this middleware technology to determine how it has been used by companies to meet business problems. You will need to find a case study that uses this middleware in a project to solve a business problem. In your paper, be sure explain the why how the technology played a role in moving from the companies previous business environment to the new business environment.
2. Each student will research a single product. The listed of products are posted in Blackboard under assignment 1. This is a link to a Google document listed here <https://spreadsheets.google.com/ccc?key=0At4pE9xiHsOWdEx5Q1pNRXliUjRzaXN2bUNISIMzSWc&hl=en&authkey=CJfRg8MJ> with the names of popular middleware you can select. Send me your choice and I will add your name to the list on a first come / first served basis. I will confirm your choice, or indicate that your choices have been taken, and ask you to pick another.
3. Learn what you can about the product. Don't limit yourself to just the vendor's web site. Try to find articles, product reviews, etc. that discuss the features, strengths, weaknesses, relationship with competing products, and appropriate application of the product. Use research available from Ebsco, Proquest and other research search engines through the UNO Library. All you need is a UNO ID number to access these sites.

4. Create your paper that covers the topics above. Be sure you do a good job of documenting all references. Also, summarize your paper in a PowerPoint presentation. . Typically these are about 20 slides in length and somewhat match a slide for each item listed below. Be sure to include illustrations of how the middleware works with other components such as databases, application servers, etc...
5. Develop a short podcast 7-10 minutes which covers the points listed in the table below

<b>Questions about the Middleware</b>	
1	Basic Vendor information, tool functionality, options.
2	Brief discussion of the overall nature of the product. Please avoid salespeak (the hype that vendors love to throw at you, e.g. "...a product to meet all your data transfer needs." or "You'll never have to worry about losing a transaction again."). Explain how the tool would help with the integration project at Eagle Financial
3	What other infrastructure is required? Server operating systems, network technology, databases... that the system supports.
4	Company Financial Background and Viability of Product in the market place – may need to check the financials, stock information of the company. Would you invest in the company?
5	Provide a success story with tool at a similar institution.
6	How is the product priced? What are the major components of the pricing model?
7	What re the ongoing costs of the tool and supporting hardware and software which add to the Total Cost of Ownership?
8	How does the system allow for High Availability?
9	Disaster recovery – how can a configuration allow for a backup or dual sites?
10	Who are some of the major customers using the system?
11	What are the major challenges to the company?
<b>Case study Questions</b>	
13	What were the opportunities or challenges, environmental or internal, that prompted the effort to employ or upgrade a distributed computing system? You may choose to discuss this in terms of changes in the business environment, business processes, or technology.
14	Analyze the strategic benefit of the information system by using the <i>Strategic Value of Information Systems</i> model discussed in class.
15	Discuss the relationship between the applications, the supporting IT infrastructure, the business processes, the business strategy, and the business environment. In your answer <i>address the issues of alignment</i> and of change.
16	Describe the system from a technical perspective. To the extent you can discern, what are the hardware, systems software, communications, data management, user interface, etc. components and how are they arranged?
17	Classify the application of this distributed computing system (2-tier, 3-tier, etc.) Explain your answer. Why was this architecture chosen rather than a different one?
18	To the extent possible, given the detail in your article, discuss the IT infrastructure from the perspective of the four qualities of an infrastructure discussed in class (centralized vs. decentralized, high application/infrastructure dependence vs. low, homogeneous vs. heterogeneous, single-system image vs. multiple-system image). Keep in mind that a given infrastructure is unlikely to fall neatly and completely within one of the categories discussed in class. What qualities predominate? What changes in infrastructure qualities can be discerned?
19	Which of the distributed services discussed in class are mentioned, if any? Services such as File Services, Security services such as an LDAP Directory service, Database Services, etc...
20	What are the principal challenges in designing, developing, implementing and using the distributed computing systems? How were they addressed?
21	What factors proved most significant in ensuring the success (or failure, as the case might be...) of the system.

## Deliverable

Please turn in the following items:

1. Submit your paper and PowerPoint for assignment 1 in Blackboard assignments (do not submit the podcast to blackboard. In the filename of your assignment please include your last name. No need to turn in a paper copy of the assignment. Your writing should be professional looking. Please write using complete, grammatically correct sentences and paragraphs. Be clear and concise in your writing. Volume alone does not score points.
2. Create a podcast in an mp3 format and post it on your website. If you do not have recording software I would strongly encourage that you consider using Audacity. You can obtain a copy free at: <http://audacity.sourceforge.net/download/>. There are a number of tutorials on how to use Audacity on Youtube. Here is a simple one to get started: <http://www.youtube.com/watch?v=IC3VZkfdgV8&feature=related>

Also, under the ISQA students section of my site, I have provided two presentations to describe how to create a podcast. You do not need to install the mp3 driver, that is optional. Just use the wav file format. You also need a pc compatible microphone which you can acquire for \$10-20 at the most from a variety of sources. Post the podcast, PowerPoint and paper in separate links on your website (you will have a website by the first 2 classes) and when you submit your assignment reference your podcast in your paper and in the assignment submission notes in Blackboard.

## Grading

The assignments that get the best grades will be those that demonstrate clearly good insight into the most important aspects of your articles, how they relate to each other, and how they relate to material covered in class. The questions listed above are intended to get you thinking in the right direction, but feel free to carry the discussion beyond their bounds if you feel this would be beneficial. Please note that what I am *not* looking for is a mere repetition of the detail found your research. If I want raw detail, I can read the article itself. When I read and listen to your podcast, I should see additional thought, additional insight beyond the basic details of the case. The podcast should be under 10 minutes and summarizes the key points of your paper in a conversational format that demonstrates you can summarize what you have read.

Criteria	Points
Quality of Content	80
Quality of Writing	10
Quality of PowerPoint and podcast	30
TOTAL	120