

# Lan technologies essay



**ASSIGN  
BUSTER**

Chapter 2 Mini case 1 Deal-R-Us Brokers (Part 1) Case Description: Fred Jones, a distant relative of yours and president of Deals-R-Us Brokers (DRUB), has come to you for advice. DRUB is a small brokerage house that enables its clients to buy and sell stocks over the Internet, as well as place traditional orders by phone or fax. DRUB has just decided to offer a set of stock analysis tools that will help its clients more easily pick winning stocks, or so Fred tells you. Fred's information systems department has presented him with two alternatives for developing the new tools.

The first alternative will have a special tool developed in C++ that clients will download onto their computers to run. The tool will communicate with the DRUB server to select data to analyze. The second alternative will have the C++ program running on the server, the client will use his or her browser to interact with the server. Option #1 Summary -> Special C++ tool resides on client machines and downloads information from server to analyze. Option #2 Summary -> Special C++ program runs on the server, client uses browser to interact with the server.

Question 1: Classify the two alternatives in terms of what type of application architecture they use. Answer 1: Both Option 1 and 2 are client-server architecture because they utilize a client machine, and server to communicate. This is in contrast with peer to peer, in which all machines are equal; all considered servers. Option 1 is a Thick Client architecture, whereby the application logic resides on the client, data is downloaded to the client, and the processing occurs with the application on the client.

This thick client would execute and run on the user's workstation and make connections to the server to fetch data to be processed and analyzed. In this scenario, each user that needs to use the application would need to install the application on their workstation. Option 2 is a Thin Client architecture, whereby there is little or no application logic placed on the client computer. Processing occurs on the server where the application is located. There will be requests sent from the user's workstation to the server where the application is running.

The application will then respond with information back to the workstation, and only the display results need to be transmitted to the client. In this scenario, users don't need any executables running on their workstations, they can simply use any web browser client and connect to the application via the internet or even through an intranet. Question 2: Outline the pros and cons of the two alternatives and make a recommendation to Fred about which is better. Answer 2: Thick Clients will need to transfer much more data, as the processing happens on each client machine.

Also, if the application needs to be updated, each client machine must be individually updated; a risk exists whereby some clients are not updated, causing errors. Thick Client Pros • Better, faster application performance • Less complex to develop and implement Thick Client Cons • Application needs to be installed on every workstation • Application updates can be time consuming as each workstation needs to be updated individually • Version control can be hard to track Application can be disrupted by users if they delete or change files that are part of the application • Operating system changes may break application functionality • Application may need to be

updated depending on what Operating System it will run on (32 bits, 64 bits)

- Time consuming update process for the customers Thin Clients are easier to manage because when the application needs to be updated or changed, it only needs to be updated once on the server, and it is available for use by all clients. In addition, each new client needs only be given access, and the web address to access. However, since the thin client will be using the client's browser, the application / server need to be programmed to accommodate all popular browsers (Firefox, Chrome, Internet Explorer, etc. )

Thin Client Pros

- User workstation does not need the application running locally
- Users can access the application from any browser that is supported and anywhere that internet connection is available. Access can be achieved through an intranet or the internet
- Application updates are easier to implement as the application is on the server
- Users cannot access application files and disrupt configuration
- Versioning is more manageable There is no need for an additional hard disk as application logic runs on the server.
- Centralized support of the server

Thin Client Cons

- Security can be difficult as users access the application through the internet
- Slower performance
- If the server goes down, all users are not able to work or use the application
- Browser changes can affect application functionality (changes in ActiveX components as an example)
- Users place more demands on the server and eventually on the corporate network which may lead to slower performance.

We would recommend using the Thin Client, Client-Server based architecture, as it has numerous advantages over Thick Client architecture in the areas of manageability, data transfer quantity, and client experience consistency. This will ensure that users can do work even if they are mobile

within their company and even on the road (even while international traveling).

Since the application is on the server, updates, configuration and maintenance will be less expensive, as updates have to do in one place and only once. Distribution of the application is a lot faster, as all is needed is to setup access on the server side, and then any user can access the application. The application can be setup with a fail over server. In this scenario, if a server goes down unexpectedly, then traffic will be routed to a second server, minimizing down time and disruption to operations.