

**Responding to a Request For Proposal (100 pts.)
MIS 140 Spring 2003, Instructor: Mesher**

Initial Progress Report Due Monday April 28th
Due Date: In class, Monday May 12th, 2003

I. Introduction: what is an RFP?

In this assignment, you will respond to a request for proposal (RFP) by writing a network proposal. RFPs are valuable when the buyer's needs are complex since the RFP spells out the customer's requirements in detail. They typically use competitive bidding, ensuring a balanced consideration of both quality and cost. By writing a response to an RFP, your lab group will act as a networking contractor, providing your group with a valuable lesson in network design and allowing you to apply the knowledge you have already gained in this course. In addition, it will be to your advantage to do some of your own research (such as talking to knowledgeable computer store employees) for this RFP.

II. The Automobile Recycling Industry

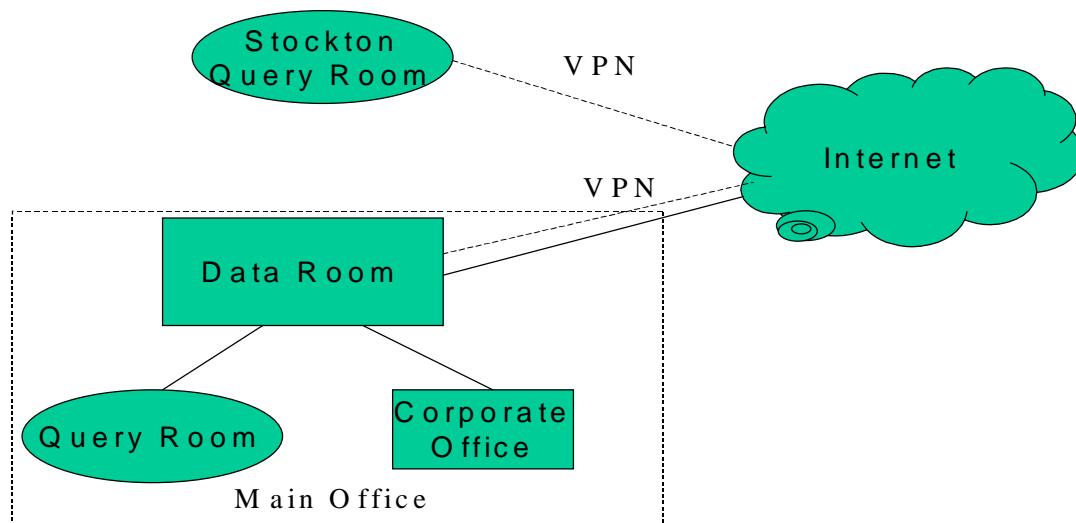
In the United States, there are approximately two cars for every three people. Tens of millions of new and used cars are sold every year and making the automobile industry overall one of the main features of the US economy. Each car is made up of thousands of individual parts, which are often only used on that make, model and year of car or, at most, on just a few other similar models. As cars age, parts wear out or are damaged in accidents and need to be replaced. Because new replacement parts (known as "dealer" parts) are typically sold at a premium, a huge industry exists, known as the auto wrecking or auto recycling industry, in which parts taken off cars that are no longer drivable are resold to individual car owners, used car dealers and auto repair shops.

To date, communications facilities at these companies are not very sophisticated. Auto-recycling companies typically use the telephone and a resellers CB radio network, but are not organized for e-Commerce. The focus of this project then, will be an imaginary Web-based virtual auto-recycling company that will work with local auto-recyclers to create a more efficient and profitable local industry while at the same time carving at a niche for itself as a value-added reseller of used auto parts.

III. NCal-eParts E-Commerce Auto Parts Network RFP.

The new company, to be called NCal-eParts will be issuing an RFP to solicit potential vendors (your group) to submit a design for a new medium- sized, e-Business network for the local auto parts recycling industry, which will have the following features:

- The corporate office LAN, handling management and accounting functions;
- A query room, in which 6 employees will respond to customer queries, via electronic chat, telephone or e-mail to providers that supply auto parts.
- A second query room will be set up at a second location in Stockton that will need to have access to the corporate web site and date base servers
- A leased line or VPN that will allow the employees in the Stockton query room to access the corporate server facilities in Sacramento.
- A Web farm, housed in a data room, including a brief discussion, with references, of what a web farm is and how they are used in business.
- High speed Internet access to the facility.



Facility Details:

1. Data Room/Web Farm

The key facility will be a web farm that will allow both online queries to business partners as well as be used by query room workers to field parts requests. Initially, 6 workers will handle incoming orders at the new facility. Marketing estimates, based on current phone-based business activity, indicate that the facility will initially receive about 1,000 orders per week and the company hopes to ramp this up to 3,000 by the end of 2004. For this assignment, you will need to do some research on web farms and their design and include a brief discussion of what they are and how they are implemented in your report. But to simplify the assignment, let's assume that the Web Farm will consist of a load-balancing server that will also serve as a proxy server and 4 "slave" servers that will process the database queries generated by the proxy server (load balancing servers are discussed in the text in chapter 9).

2. Corporate Office

The corporate office LAN will initially include workstations for a total of six employees in the accounting, marketing, the LAN managers and the company owners. These workers will need Internet access, but will also need to have their network protected from unauthorized access by both outsiders and other corporate employees.

3. Query Room/Call Center

An additional LAN will also be created to support a core feature of the NCal-eParts facility, the query room. The query room will be used by employees to respond to phone calls, e-mail messages and chat queries for requested parts. Initially the room will include just six workstations, but should be readily expandable to twelve.

4. Stockton Query Room/Call Center

The true potential of the company lies in its ability to coordinate the sales and rapid delivery of parts over a relatively large region. As the company grows, marketing plans exist for it to quickly expand to provide this service to all of Northern California and Western Nevada. Initially, however, the concept will be tested by setting up a second query room to handle the auto-recycling market in Stockton.

(Note that in all cases, you can assume that the telephone network for the company will be handled separately from this proposal).

DELIVERABLES:

Initial Progress report (10 Points): On Wednesday, April 23rd, turn in a 2-3 page progress report (worth 10% of the assignment grade) listing how the work is being divided up and managed, describing your approach to designing the network, an overview of what you've learned so far and the problems you are having that you may wish to discuss.

Final Report Sections:

Proposals for the new network must address the following network and project details:

0. Executive Summary
1. Project Overview (including Timeline and Budget)
2. Local Area Network
3. Wide Area Network
4. Security
5. Future Plans; Scaling Up the Project

0. Executive Summary: a one-page proposal summary of the highlights of your proposal.

1. Project Overview: present a detailed project budget along with a timeline for its completion. Note: the Gantt chart required here is an implementation gantt chart, that is, a list of the steps needed to implement the network, **not** the steps needed to design it.

2. Network Description.

2.1 Network Map *utilizing Cisco icons.*

2.2 Local Area Network. The main network will consist of a LAN broken into three segments, the web farm, corporate offices and query room. You can also include the LAN for the Stockton satellite office as a subsection in this section. *For the purposes of this assignment, you'll need to do some research on web farms and their design and include a brief discussion on them and how they are implemented in your report.*

2.3 Wide Area Network Description: A key feature of the network will be the WAN link between the corporate office and satellite office in Stockton. In addition, business partners and other customers, can submit queries through the web site, so a connection to the Internet will also be required.

For this assignment, you can assume that the link between the corporate offices will be a VPN, but make sure and describe the equipment needed, how the link is set up, and what steps are needed to implement one. *For the purposes of this assignment, you will need to do some research on VPNs and their design and include a brief discussion of what they are and how they are implemented in your report.*

4. Security: you will also need to address security network concerns related to unauthorized access to network resources (especially the firewall and encryption of outgoing files over the VPN). This is also the point where reliability, in terms of system redundancy features, can be discussed.

5. Scaling Up the Project: Include a short discussion of how the project could be scaled up as part of the company's plan to expand the facility to cover a wider area (say, to include projected new query rooms in Reno, Chico-Yuba City and Modesto).

Simplifying Assumptions: to simplify things, you can assume the following:

1. Employees will each be given a standardized, network capable desktop computer.
2. No software need be specified in your proposal, unless it is used to meet a specific requirement (such as security).
3. No telephone equipment need to be specified in this proposal.

IV. Report Submission Guidelines:

1. Formatting: The report must be doubled spaced, using Times New Roman, 12-point font and have 1" margins all around. Report length should be about 25-30 pages long and include the following elements: cover page, table of contents, page numbering.

2. References: Because this is a research assignment, information presented in the proposals must be adequately documented. All proposals must include a bibliography and references should be made according to APA style. Visits to outside organizations are also encouraged. Please make sure and include details such as name of the person you met with, the time and date of meeting, contact number and e-mail for the person contacted.

3. Grading: Your grade will be based on a combination of factors including:

- Quality of the presentation (was it neatly done and clearly written)
- Thoroughness of the report (were all details of the report adequately considered)
- Quality of the research (how extensive was your research effort)