 **Silver Eagle Insurance**

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**Memo**

**Date:** November 10, 2011

**To:** Tom Moore, Information Systems Manager

**From:** Owen Burnett, Network Technician

**Subject:** Proposal for Research of Blade Servers for Remote Network Connectivity Needs

**Purpose**

I am writing this proposal to request authorization and funding to research blade servers that can improve remote connectivity to Silver Eagle’s computer network and increase employee productivity.

**Summary**

In the past ten years, Silver Eagle Insurance has grown from a small business providing low insurance rates for our customers’ car insurance needs to a medium-sized business with locations in Oklahoma, Kansas, and Texas. Customer satisfaction has always been a high priority for our company.

This proposal was written in response to the problem users face with getting a remote connection to our company’s computer network. This problem has existed for about one year. A year ago the number of employees of our company grew to over 500. Our remote access servers collectively can only handle 200 remote connections at a time. It is difficult to get a remote connection to the computer network at times of day when the network gets the most use, such as at the start of business, just before lunch, and just before the close of business. This slows employees’ work down considerably.

I propose to research blade servers from a variety of vendors that can meet our company’s remote connectivity needs. It is important that our employees have the equipment they need to do their jobs effectively and efficiently.

I have been a network technician for this company for seven years. Appendix D: Successful Network Upgrades lists two projects that I completed alone, both in less than one month. I am very familiar with the information on selecting a server available on the Dell, HP, and IBM websites. I will rely on this information heavily while performing the research.

I estimate that 48 hours over six days will be required to do this research and complete a report covering the results. See Appendix A: Research Schedule for dates of the performance of each task involved in the research project. If this research is authorized the total cost for the research and the recommendation report would be $730. See Appendix B: Research Budget for an itemized listing of research expenses. I would be the only person doing the research and writing the report. A recommendation for the purchase of the blade server which best meets our company’s needs, details about the research performed, and the findings of the research would appear in the recommendation report. Research would start as soon as authorization is received. If you approve this proposal you will receive a progress report on April 13, 2011, and a recommendation report on April 18, 2011.

**Introduction**

The purpose of this proposal is to get your authorization to research blade servers which can meet our remote connectivity needs.Blade servers are only a few inches wide and are generally no more than one foot in height and length. They are very computationally powerful given their size. They are some of the most energy efficient servers on the market.

If the research is authorized the scope of the research will include identifying blade server options, producing a list of the main criteria used to compare blade servers, researching purchase options, evaluating purchase options, and writing the recommendation report. The scope of the research will not include identifying purchase options for network infrastructure devices other than blade servers.

This proposal was written in response to complaints from employees concerning their ability to get a remote connection as well as the amount of time it takes to get a remote connection to the network. I have heard many complaints from employees saying that they cannot get a remote connection to last longer than five minutes. Some employees report that they cannot get connected at all.

There are 100 employees that work from home two days out of every week who need to be able to connect remotely and have access to the data and applications they need with no delay. The sales team needs access to their sales data when traveling to meet with clients. The quicker they can connect to the network remotely the more sales they can make in a day. Executives, managers, marketing, and sales attend meetings at remote locations. It is embarrassing for the company to have executives unable to connect remotely at meetings where large amounts of money are at stake. This problem is costing our company more money than we can afford to lose.

A survey which asked employees questions about their remote connectivity experiences was completed by 93% of Silver Eagle employees within the last month. The survey asked employees to only respond if they connect remotely to the Silver Eagle Insurance computer network. Figure 1 shows that the majority of employees have been unable to connect to the network remotely more than once within the last month. Other questions asked were “When you are able to connect to the network remotely how long does it take you to get a connection?” and “When you get connected to the network remotely how long can you usually keep your connection?”.

**Figure 1. Results for the question “How many times in the last month have you been unable to connect to the Silver Eagle Insurance computer network remotely (from an offsite location)?”**

One employee commented on their survey, “It is unprofessional to keep a customer waiting for 20 minutes while I try to get reconnected to the network.”

I propose to research blade servers that will allow all of our employees to be concurrently connected to our network remotely. My research will help you determine what equipment to buy to improve our remote access. I take great pride in the work of the network service team. I know that I will be able to persevere through this project and deliver a recommendation report which has everything you need to make your decision.

The remainder of this proposal consists of the proposed tasks, the research schedule, my experience, the research budget, evaluation techniques, descriptions of successful network upgrades, and a list of references cited.

**Proposed Tasks**

The following tasks will be carried out with your authorization to determine the best equipment to purchase for improved remote network connectivity.

1. *Research and document the problem*.

Examine the logs of all currently used remote access servers to see how many connections get dropped, how often connections get dropped, the amount of time it takes users to get a connection, and the number of failed connection attempts. I will document this information so that identifying purchase options is easier.

2. *Identify blade server options which allow all Silver Eagle employees to be concurrently remotely connected with minimal delay in data and application access.*

I will make a list of products that are capable of supporting the needs of the company for at least five years. I have found a wide variety of blade servers that may meet our needs on the websites of server manufacturers such as Dell, HP, and IBM. Most blade servers can be purchased for less than $8,000 without customizations.

3. *Make a list of the main criteria that will be used to compare blade servers.*

It is necessary to have a list of criteria to guide the research and evaluate the options. Standard Performance Evaluation Corporation is a non-profit corporation which provides technical benchmarks and benchmark results for the performance of computer hardware components produced by computer manufacturers. If the proposal is authorized I will use the benchmark results available on their website [www.spec.org](http://www.spec.org/) for Dell, HP, and IBM computer hardware components to gather information which I will use to make a blade server purchase recommendation. I will also review Dell, HP, and IBM blade server product descriptions more thoroughly on those companies’ websites to gather additional criteria. See Appendix C: Evaluation Techniques for the processes that will be used to choose a blade server model for purchase.

Warranties will need to be compared to determine which products we can expect to get a full refund on long after purchase. Warranties for most products are freely available on vendors’ websites. I will need to research how many remote connections each product can support, the speed of the connections, hard drive space, processing speed, memory specifications, ease of installation, and maintenance requirements. This information can be found on vendors’ websites in the form of product documentation.

The blade server that will meet our needs must be able to meet the demands of our company for at least five years, must be durable, and must have a reasonable price. Only blade servers from Dell, HP, and IBM will be researched and considered in the proposal due to their products’ good warranties and because of negative experiences with durability and maintenance of products from other vendors.

4. *Research blade server options.*

I have visited two local retailers that sell Dell, HP, and IBM blade servers already. If the proposal is approved I will visit more retailers to get more suggestions. I will speak with representatives from the Dell, HP, and IBM sales teams to get their suggestions for our server needs and to see what deals they are willing to make on the prices of their products. I will search for detailed information on the identified options on the websites for Dell, HP, and IBM, compare prices, and compare technical specifications. Using these sources ensures that the most current information to evaluate the purchase options is being used.

5. *Use blade server purchase criteria to evaluate blade server options.*

The information gained from the research will be used to evaluate purchase options. See Appendix C: Evaluation Techniques for information on the processes that will be used to evaluate blade server purchase options.

6. *Write recommendation report.*

I will prepare a recommendation report that fully describes the remote access problem, processes used in the research, and my findings which will include the recommendation of a blade server purchase option. I will specify how many server units should be purchased, the cost per unit, and the total cost for the number of units to be purchased. I will find this information on the website of the vendor whose product I will recommend for purchase. I will include technical specifications for our current remote access servers and the proposed server for purchase. I will also include performance log information for our current remote access servers, the results for each question on the remote access survey, and information on how the purchase criteria and servers selected for research were chosen. The recommendation report will be submitted on April 18, 2011.

**Experience**

I have been a network technician for this company for seven years. I am currently working on a Bachelor of Science degree in computer science at the University of Central Oklahoma. I am CompTIA Network+ certified.

**Appendix A: Research Schedule**

Below is the project task completion schedule

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Task** | **Dates of performance of Tasks (by Days)** | | | | | | |  | |
| Task 1: Research and document problem |  |  |  |  |  | |  | | |
| Task 2: Identify blade server options |  |  |  |  |  | |  | | |
| Task 3: List criteria for comparison |  |  |  |  |  | |  | | |
| Task 4: Research server options |  |  |  |  |  | |  | | |
| Task 5: Evaluate server options |  |  |  |  |  | |  | | |
| Task 6: Write recommendation report |  |  |  |  |  | |  | | |
|  | 11 | 12 | 13 | 14 | 15 | | 18 | | |
|  | April | | | | |  | | |

**Figure 2. Research Task Schedule**

**Appendix B: Research Budget**

Below is an itemized budget for the research I am proposing.

**Labor**

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Hours | Hourly Rate | Cost |
| Owen Burnett | 48 | $15 | $720 |

**Material Costs**

|  |  |
| --- | --- |
| Item | Cost |
| Printing and Binding of Recommendation Report | $10 |

**Total:** **$730**

**Appendix C: Evaluation Techniques**

A numeric score will be assigned to each server purchase option to compare the suitability of the option for our needs with the suitability of other options. A limit will not be placed on the number of points that can be assigned to a server purchase option. Two points will be added to the score if the server has at least 8 GB of memory, at least 2 processors, and at least 100 GB of hard drive space. Two points will be added if the server has at least a three year warranty. Two points will be added if the server is easy to install and maintain. Two points will be added if the server has superior benchmark results to the results of servers from other manufacturers within its class. A score of zero points will be assigned if the server cannot support the number of users that will be accessing our network remotely five years from now.

The server with the highest score will be recommended for purchase in the recommendation report. If two or more servers have the highest score additional points will be added to the score of each server according to the amount with which each server exceeds the minimum expectations.

**Appendix D: Successful Network Upgrades**

1. Silver Eagle Insurance Company (June, 2010) – Purchased, installed, and configured new Cisco routers and switches for the network.

2. Silver Eagle Insurance Company (September, 2008) – Purchased, installed, and configured fiber optic network adapters in all servers.

**Appendix E: References**

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