Shared Server Infrastructure
Project Overview

Introduction

The purpose of this project is to ensure the Company's shared server infrastructure is capable of meeting the evolving requirements associated with the operation and support of the Company's software applications. The project involves the addition, upgrade, and replacement of computer hardware components and related technology to ensure that the Company's applications continue to enable the Company to provide effective customer service and to operate efficiently.

Background

The Shared Server Infrastructure project includes the procurement, implementation, and management of the hardware and software relating to the operation of shared servers. Shared servers are computers that support applications used by multiple employees. Effective management of these shared servers, and their components, is critical to ensuring that these applications operate effectively at all times.

Technology components such as servers and disks require on-going investment to ensure that they continue to operate effectively. To maintain this effectiveness, investment in additions, upgrades, monitoring, and security is essential.

An upgrade is a modification that extends the useful life of a technology component by fixing known problems, improving usability, and providing additional features and functionality. Hardware upgrades are also necessary to accommodate software enhancements, and include such things as adding extra disk storage or tape backup units.

In order to ensure high availability of applications and minimize the vulnerability of its computer systems to external interference, the Company invests in availability monitoring and proactive security monitoring tools. These tools allow the Company to monitor and respond to occurrences that could impede the normal operation of applications or damage or destroy Company information.

Eventually, the individual components of technology will require complete replacement as they become obsolete or no longer meet evolving requirements. The challenge is to make appropriate judgments as to when it is more cost effective to add or replace technology components rather than invest in further upgrades.

Factors considered in determining when to upgrade, replace, or add server components include the current performance of the components, the level of support provided by the vendor, the criticality of the applications running on the shared server components, the ability of the components to meet future growth, the cost of maintaining and operating the components using internal staff, and the business or customer impact if the component fails. Computer servers have a useful life of approximately 5 years.

Benefits

The benefits of the Shared Server Infrastructure project include:

- Ensuring that corporate applications, such as the Customer Service System and the Problem Call Logging System, are available to employees.
- Allows proactive monitoring of the shared server infrastructure to predict component failure and reduce application downtimes that can disrupt the Company's ability to serve customers.
- The elimination of the Company's dependence on technology that either is no longer manufactured, is obsolete, or for which vendor support is in decline.
- Improves security management to ensure that corporate applications and data are adequately protected from external risks.
- Provides additional processing capacity to meet the needs of new or enhanced applications.
- Provides backup for critical computer components in the event of a serious failure within the server infrastructure.

Costs

The capital cost of replacing and upgrading components of the shared server infrastructure for 2003 is estimated at $1,411,000. The table below provides an overview of the capital expenditures for the components of the Shared Server Infrastructure project.

Ongoing operating costs for the overall shared server infrastructure are estimated to remain at existing levels of approximately $330,000 annually.

Shared Server Infrastructure		
Description	**Primary Benefit**	**2003 Project Costs ($000s)**
Server Upgrades & Replacements	Maintain system performance and reliability	404
Outage Management System Servers	Additional servers needed to accommodate new application	36
Monitoring and Security Software	Improved security and availability of applications	168
Call Centre Technology Upgrade	Replace obsolete component	278
SCADA Computer System Upgrade	Replace obsolete components and improve reliability	525
Total		**1,411**

Components of 2003 Shared Server Infrastructure Project

Server Upgrades & Replacements
This element of the Shared Server Infrastructure project involves:

- replacing 14 servers that have reached the end of their useful life of five years ($145,000);
- adding additional disk storage capacity to accommodate the growth of information that is stored on the Company's computer systems ($214,000);
- purchase of a new tape drive system to back up the information stored on the Company's computer systems to be used in the event of a disk failure ($30,000); and
- the purchase of a new server to enhance the security of customer information accessed through the Company's Internet website ($15,000).

Outage Management System Servers
The Outage Management project for 2003 will require the purchase of two new servers to accommodate new software.

Monitoring and Security Software
Newfoundland Power interacts with its customers and suppliers using the Internet on a regular basis. Companies that are connected to the Internet face an increasing risk of attack by outside threats. Also, there are hundreds of new virus threats circulating on the Internet each month. Monitoring and security software will allow the Company to continue to keeps its computer systems protected from these threats, while continuing to be responsive to customers over the Internet.

Call Centre Technology Upgrade
The Computer Telephony Integration (CTI) component of the Call Centre Technology provides customers with self-service options, such as receiving their account balances and payment date using their telephone keypad. As well, this component directs customer calls to the Contact Centre agent who is best equipped to handle the call. Beyond 2002, the vendor will no longer support this component. The component will be replaced with a vendor-supported version.

SCADA Computer System Upgrade
The SCADA software application was installed in 1999 and is currently two versions old. As well, the Unix operating system software that runs the SCADA system application is now five versions old. In 2003, the Company will be upgrading the Unix operating system software and the SCADA software application to the current version. Staying current will ensure that vendor support continues. While new versions of these systems are usually available every year, the Company will plan for major upgrades approximately every three years to minimize costs. This project also includes upgrading the disk storage for the SCADA system. This disk upgrade is necessary to support the aforementioned software upgrades.

Summary

The shared server infrastructure is a vital component in the provision of low cost, efficient, and reliable service to customers. The need to replace and modernize information technology infrastructure is fundamentally the same as the ongoing requirement to replace and modernize any other component of the Company's electrical system infrastructure as it deteriorates or becomes obsolete. Instability within the shared server infrastructure has the potential to impact high numbers of employees and customers. Ensuring that this infrastructure is highly reliable and efficient is critical to the Company's overall operations and to the provision of overall customer service. The purchase of the components for this project will be tendered in order to ensure they are obtained at least cost.