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Advantages of Using a Web Based Reporting System Over Using SAS Connect

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Abstract

The Consumer Services Information System is a SAS database containing information on consumer contacts with the Pennsylvania Public Utility Commission (PUC). Users are able to access the database and run reports from remote locations, using SAS software. The reporting system was converted from a system written in SAS 6 and using SAS Connect to a web-based system developed in SAS 8 to overcome several problems associated with the former. This paper shows how reports from the old system were adapted to a Web based reporting system and details the advantages of the new system over the old..

Introduction

SAS is used by the Consumer Services Information System (CSIS) Project at Penn State University to provide up-to-date information from their SAS database to their research sponsors and information users in the Pennsylvania Public Utility Commission (PUC). The CSIS contains information on each utility consumer contact with the PUC and any subsequent investigation and dispute decision, as well as any consumer inquiries or payment arrangements. The main database is updated weekly. These data are used in rate cases and other court cases as well as in periodic assessments of company performance and other decision-making processes.

The CSIS has undergone a variety of upgrades and rewrites over the years. The previous incarnation was written using SAS AF and Frames. It was installed on a computer in the PUC office in Harrisburg, PA (the CSIS is located in State College, 100 miles away). The users at the PUC initially connected through a dial-up modem, then later an Internet connection. SAS Connect was used to permit the PUC user to run reports using the data in the CSIS database.

There were multiple problems associated with this procedure. State policy did not allow the system to be installed on PUC owned computers. The PUC also did not own its own SAS license and their MIS department did not want to purchase one. Because of this the CSIS Project had to provide the PUC with a single computer with the necessary software installed on it. PUC users had to schedule time to use the computer and only one person could access the database at a time. As the state of Pennsylvania improved its information system security measures, there were also firewall issues, requiring constant modifications to the process. The firewalls slowed the time required for the generation of reports, sometimes resulting in time-out errors. As time went on, it became increasingly important to redesign the reporting system to overcome these problems.

The Web Based Reporting System

To solve these problems, the CSIS Project redesigned its reporting system in SAS 8.1 to work over the Internet. SAS Intrnet and the

SAS database were installed on the Project's server. A second server was used to monitor and regulate Internet access to the Web-based reporting system and database.

This new system has many advantages over the old: The CSIS Project no longer has to provide the PUC with a computer. The PUC users no longer have to schedule session time to use the computer. Multiple PUC (and non-PUC) users can access the database at the same time from their own desktop computers, or from laptops in the field (as long as they have an approved IP address and valid User ID to access the Project's server). The Project only has to make updates to the programming in a single location, on their own server. It is no longer necessary to make corresponding updates or to install updated software on the remote computer, and every update is immediately available to all users. Finally, the complete internet connection allowed the project to circumvent any problems associated with the state's firewalls. Report results were also generated more quickly.

Other Advantages of the Web-Based System

The Web-Based reporting system has other advantages beyond just solving the previously mentioned problems. One major benefit involves the flexibility of generating and saving the output from reports. With some restrictions, output can be saved directly as html, Word, Excel, or PDF documents. The web-based system also allows users to write and save their own, "Customized" programs, or run "canned," automatically formatted "standard" reports.

Customized reports are divided into four groups: Listings, Tables, Crosstabulation Frequencies, and Means. By clicking on the type of report they want to create, users are guided through a series of screens to choose their input variables, time period, data sorting criteria, and output variable.

"Standardized" reports are grouped by how often they are usually run: weekly, bi-weekly, monthly, quarterly, and yearly. Most of the standardized reports produce crosstabulation tables, frequencies, or other listings of data in preformatted displays. The users click on the report they want to run and enter the time period for which they need the results. The programming of each standardized report from the prior version of the information system was treated as a macro during the conversion process. All reports are stored in a directory on the CSIS server, along with the programming for the Web-based reporting system.

Summary

Effective communication of information is vital to the success of any information reporting system. When faced with multiple problems associated with the use of their SAS 6-based reporting system, the CSIS Project was able to use SAS 8.1 Internet technology to overcome all of these problems. The resulting

system is more flexible, more efficient, and permits more extensive use of their database in decision-making.

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