THE CREATION OF AN INFORMATION CENTER TO REPLACE A PAPER DISTRIBUTION PROCESS
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Introduction

The Service Quality Analysis department of Satellite Business Systems has the responsibility of measuring the performance of our satellite communication system. The performance measurement process has evolved from simple manual calculations by two people and a calculator into numerous SAS batch reports and charts. The importance of these reports was recognized by upper management for maintaining and improving the quality of service provided to our customers. As the data became more accessible, every Manager wanted a report to suit his own need resulting in more and more different sorts of the existing data and the development of new information from the data. This increase caused the need to standardize all reporting in a way that every user would be satisfied. The hierarchical reporting structure that was developed is as follows:

COMPANY
AREA
REGION
SERVICE CENTER
SITE

In addition, reports can be sorted by individual product lines for marketing uses and customer reporting.

Service Quality Analysis distributes reports daily, weekly, and monthly as well as on an ad-hoc basis.

Eventually, Service Quality Analysis became the source for all the measurement analysis in the Company. Service Quality Analysis reports became the tool for every management level in the Company. Field Engineers use the data to assist in troubleshooting equipment problems. Field Managers use the report to measure their employees' performance.

Past Distribution System

The required reports were mailed to the requestor each week and month. This meant Service Quality Analysis was mailing fifty to sixty different combinations of reports each week. Internal mail was used for employees at headquarters and the U.S. Post Office was used for the deployed field sites. This distribution method meant a site could receive a report one to one and a half weeks late. In addition, our reports were not even run until all databases were completely updated and verified - up to ten days after a month was completed. Field sites were receiving their weekly reports for data up to twenty days old. When the report is received this late it becomes a "report card" rather than a tool to help solve problems. In order for the information in the reports to be used by the Field Engineers to fix problems before they became customer affecting, a solution to the time for distribution was needed.

In addition, many Managers would constantly phone Service Quality Analysis for the numbers prior to the receipt of their reports from the existing distribution system. As Service Quality Analysis developed new measurements, Service Quality Analysis personnel received calls asking how it computed the measurements as users would constantly lose their documentation. Answers to these questions would be researched and relayed to the user.

It was evident that with the previous distribution method the reports were not helping to solve problems, but only reporting performance. The need for a quicker reporting vehicle for the field sites to receive their reports was needed in order to fulfill the dual purpose of diagnostic and performance reporting.

Concept

Service Quality Analysis decided it was necessary to build an on-line report distribution system. The concept was that all users in the Company would have access to the reports at the same time as soon as they became available. The user would be able to view the report on his terminal or direct it to any printer available. The user would have access to all the documentation through the HELP facility, eliminating many of the definitional phone calls. The Information Center would consist of the weekly reports and the monthly reports. The weekly reports contain reports only for the most current week. The monthly Information Center would keep five months of reports on-line for trending purposes.

In addition, the Information Center would have to be updated by a non-programmer due to budgeting constraints.
Implementation

Three factors made the implementation of the Information Center easy. The first factor was the programs which produced the reports already existed but the reports were not in the right format for the Information Center.

The second factor was that the entire company should have access to the Information Center. On-line SAS processing through TSO was Service Quality Analysis' first choice; however, TSO is only available to headquarters personnel. ROSCOE and CICS are available to both headquarters and field sites. After evaluating both alternatives, Service Quality Analysis decided that the system would be most efficiently built and used with ROSCOE. Files created from SAS batch jobs submitted through TSO could be transported to ROSCOE very easily and quickly.

ROSCOE is an on-line system with similar capabilities to TSO - command lists are called RPF. Most RPF commands are similar to TSO commands. The main difference between our versions of TSO and ROSCOE is that on-line SAS processing is not available through ROSCOE. Therefore, the Information Center had to be written in the ROSCOE RPF language.

The third factor was that command lists, instructions, and a simple structure would make it possible for a non-programmer to update the weekly and monthly Information Center. The person updating submits a series of batch SAS jobs which produce the actual visual output for the Information System and the output is then transported to the ROSCOE system. The reports are run only once each week and each month which reduced CPU costs and allowed centrally controlled processing.

The Information Center has three parts -- the Control Programs, the Menus, and the Files. The Control Programs and the Menus are written in the ROSCOE RPF language. The Files are simple sequential files produced from SAS programs.

Control Programs and Menus

The Control Programs and the selection Menus are contained in the same ROSCOE library members. The main Menu (see Exhibit 1) determines the function the user wants to perform. The user either enters the option corresponding to the report he wishes to view on-line, or he enters the option corresponding to the HELP Menu or print function. The Control Program, using the user supplied option, either fetches and displays the correct file, calls the HELP Control Program, calls the print Control Program, or issues an error message.

When the user wants to view a report on-line, the Control Program fetches the correct file. For example, the user wants to view option A, Circuit Availability for October, 1985. The Control Program uses the option and the date from the Main Menu to obtain the correct file. Since all circuit availability reports are named CIRDYYMM, the Control Program fetches the file CIRD8510. Once the correct file is fetched, control is passed to the Display Control Program. This program reads each line of the file until it finds a 1 in column one. It then displays these lines on the screen to the user via a ROSCOE panel (see Exhibit 2). When the user hits the ENTER key, the program resumes reading each line of the file until a 1 in the column one is read and then it displays these lines. This action repeats until the end of the file is reached or the user hits the END PF key.

When the user wants to print a report, he enters the option corresponding to the Print function from the Main Menu. The Control Program prompts the user for the report to print and then for the printer ID. (If the user is attached via a dial-up terminal, the program searches in the port-ID table and finds the printer ID). The report is then fetched in the same way as for viewing it on-line. Control is passed to the Print Control Program which performs some error checks and issues the print command.
The HELP screens are a series of ROSCOE panels and files (See Exhibit 3).

Files

The screens the user views are actually the output from SAS jobs. Since SAS is such a flexible language, few coding changes were made to the existing programs. The programs had to print the original way (default page and column size) as well as in the Information Center format (80 columns and 21 or less lines). Two cases were involved - programs that formatted the report with PUT statements and programs using the PROC PRINT procedure.

The programs using PUT statements needed the most changes. The original data step with the PUT statements was placed in a MACRO. A new data step with different PUT statements was also put in a MACRO. Depending on which format is wanted, one or both of the MACROS are executed.

Programs using the PROC PRINT procedure were converted similarly. Some of the programs use the same print and label statements for both formats; however, an OPTIONS statement is used for the Information Center print. The page size and line size are set to 21 and 80. (See Exhibit 4).

PROC PRINT

EXHIBIT 4
macro H= ** h blank for hardcopy; macro F= ** f blank for infocnt; F_options pagesize=21 linesize=70;
proc print split=*
H_label ... ; F_label ... ; H_long title here ; F_short title here ;

These MACROS enable the program to print either way with only one change - if the H_MACRO is an asterick, all statements beginning with H become comments. If the F_MACRO is blank, these statements are executed.

In the simplest of cases, output is directed to the correct file by putting the file dataset name in the DSN= field on the FT12F001 JCL statement. The PROC PRINTTO allows the program to print to several different files in one job by changing the UNIT= field and adding FTXXFOOL JCL statements. (See Exhibit 5). This code directs the output to seven different Files - one for each Region.

EXHIBIT 5
MACRO PRINT,
PROC PRINTTO UNIT=AU NEW,
PROC PRINT DATA=DS SPLIT=*
BY DIST ID CITY SERV_LOC;
LABEL SERV_LOC = SERVICELOCATION;
LABEL NEW, DESCRIPTION = COMPLAINTS/1000VCA
REPT, BY=REPORTED, BY=REGION;
FORMAT DISTRICT = REGION;
%MEND,
F %LET DS=NE,
F %LET U=2;
F %LET U=3;
F %LET DS=MA;
F %LET DS=MW;

Summary

The Service Quality Analysis Information Center has been extremely successful. It has been used by every field site and most headquarters personnel. It has reduced personnel needed for mail distribution and it has eliminated most of the inquiry phone calls. Presently, the only calls are for user suggestions and comments. Since Service Quality Analysis decided to provide a contact name on the main panel, users call the contact person when difficulties arise or to suggest a new report format.

When the Information Center was originally created, it contained twelve monthly reports; due to user suggestions, it now has 18 monthly reports. The weekly reports are updated every 5 days, so users are receiving reports for weekly information only 3 days old. Monthly reports are usually updated within five business days after the end of the month - a real improvement from the 20 day old reports field sites had been receiving. Users have felt that the Service Quality Analysis Information Center has improved their visibility into their performance and they've have contributed significantly to the improved customer service provided by Satellite Business Systems.