

Mailing Large PC SAS[®] Files via BITNET/INTERNET[®]

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ABSTRACT

The use of large PC SAS[®] files has been increasing at the Economic Research Service. Until recently the SAS trade data had to be broken down into smaller files for analysis. Due to changes in the trade agreements the need to do more bilateral trade research increased. This demand created larger PC SAS files. This made it more difficult to transport large SAS files from PC to PC or Mini to Mini. The BITNET/INTERNET[®] communication environment has eased the large PC SAS data transportability problems on our VM/MVS Mini computer. Since BITNET/INTERNET is a form of electronic mailer, it can communicate directly to other users on the system and other MVS systems such as Universities and other government Agencies.

INTRODUCTION

The bilateral trade data deals with the composition of world agricultural commodity trade flows. The specific focus has mainly been on U.S. bilateral trade with the rest of the countries of the world. The commodity trade statistics of the United Nations (U.N.) were the primary source of the import and export data for a particular country. The project extended to 35 commodities and 30 years. The World consisted of 225 countries and 18 regional groupings based on geographic, economic, and political criteria. The data was collected and most of the research was done at Purdue University with conjunction with the Economic Research Service. The SAS files are about 3.5 Megabytes in size.

BITNET/INTERNET File Transfer Overview at ERS

For many economists it is sometimes essential to send a SAS, Lotus[®], or WordPerfect[®] file to a colleague outside of ERS as soon as possible. Until just recently UPS was the only solution. But now, using BITNET/INTERNET it can electronically send or receive a file within minutes. Not only will it save time but money too, since the cost of shipping computer disks is eliminated. BITNET/INTERNET commands can also be used to retrieve files.

It is important to understand the general steps involved in sending a file across BITNET/INTERNET. First a Personal Computer file must be placed on the ERS Host System. This is done with a Personal Computer's SEND command or ERS's Host Courier package. Once

the file is placed on the IBM 4300 it can be sent across BITNET/INTERNET to its destination. The BITNET/INTERNET command MAIL is used to invoke this transfer. When the file has arrived at its destination, the user at the other end must check his reader for the file. If the file is present, he can then use his Host System's method of downloading the file to his Personal Computer. Every System has different methods of downloading a file to their PC. The first procedure was used at ERS up to the middle of April. The second procedure I use now came from a SAS-L user name Keith D. Kaiser of WORLDSPAN dated April 21, 1994.

PROCEDURE I.

1. Compress the file so that it is below 3 MEGS 1/ by using PKZIP[®].
2. Logon to the Mainframe at Purdue University.
3. Upload the data from the PC to the Mainframe.
4. Send the file to the Economic Research Service via BITNET/INTERNET.
5. Download to PC the compressed SAS file.
6. Extract the file using the PKUNZIP[®] command.
7. Run analysis on The SAS System for PC's to create PRN files for LOTUS 1-2-3 Spreadsheets.

PROCEDURE II.

1. Create a Transport file.
2. Using UUECODE, E-MAIL the file to the other system.
3. Using UUDECODE, un-encode the file.
4. Read the file back into SAS and you are done.

CONCLUSION

Mailing Large PC SAS files via BITNET/INTERNET has given researchers at the Economic Research Service, other government Agencies, universities, and the public a simpler, and faster user-friendly way to send large data other than through the UPS service. The BITNET/INTERNET communication system also has eased most of the large PC SAS data transportability problems.

1/ CREN (BITNET Network Information Center) only allowed files of 3 MEGS or smaller transmitted through INTERNET/BITNET.

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REFERENCES

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APPENDIX A: Partial Listing of Bilateral Trade Creation Program

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OPTIONS NOCENTER ; CMS FILEDEF FOUR DISK
DUMMY DUMMY A;
DATA ALL; SET ADJ1.UNDATA;
*RATIO = M/X; LRATIO = LOG(RATIO);
FOB=0;
IF DESTN= 1 OR DESTN= 5 THEN FOB=1 ;
IF DESTN= 4 & YEAR < 74 THEN FOB=1;
*DROP ORIGIN DESTIN;
RATIO = M/X; RATIO = LOG(RATIO);
VOL = (M+X)/2; VOL=LOG(VOL);
DROP X M ;
*proc MEANS ;
%MACRO ALL;
CMS FILEDEF DATA DISK DUMMY dummy A;
DATA ALL; SET ALL;
%DO i=1 %to 18; mrg&i=0; if commod = &i and fob
ne 1 then mrg&i=1;
%end ;
%DO i=1 %to 9; xb&i = 0; if orgin = &i then xb&i
= 1; %end;
%DO i=1 %to 9; mb&i = 0; if destn = &i then mb&i
=-1; %end;
*proc print ;
drop orgin destn commod fob ;
length mrg1 - mrg18 xb1 - xb9 mb1 - mb9 2 ;
PROC REG DATA=ALL OUTSSCP=SSCP;
var ratio mrg1 - mrg18 xb1-xb9 mb1-mb9 ;
proc datasets; delete all;
proc reg noprint data=sscp outest=betas covout ;
%do i=1 %to 9 ;
%do j=1 %to 9;
x&i.m&j: MODEL RATIO = mrg1 - mrg18
%do ii=1 %to 9;
%if &ii ne &i %then %do; xb&ii %end;
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%end ;
%do jj= 1 %to 9 ;
%if &jj ne &j %then %do; mb&jj %end;
%end;
;
%end;
%end;
DATA PARMS; SET BETAS ;
IF _TYPE_ ne 'PARMS' then delete ;
drop _TYPE_ DEPVAR _RMSE_ _NAME_ ;
PROC SORT DATA = PARMS; BY INTERCEP ;
PROC PRINT; VAR _MODEL_ INTERCEP ;
%MEND; %ALL
data data; set parms;
If _model_ ne 'X8X3' THEN DELETE ;
DATA NEW;
MERGE ADJ.UNDATA DATA;
PROC MEANS;
```

APPENDIX B: CREN'S ACCEPTABLE USE POLICY ON BITNET/INTERNET

The CREN Board has therefore approved the following that the maximum file size should be at least 3 MB. If the node's storage or transmission capability, or the line speed between it and the next node to which the file is to be forwarded, prove inadequate, in the judgment of the forwarding node, for storage or transmission of the file, the node may either delay delivery or refuse to accept or deliver the file, as described below.

Notification must be sent to the sender of a file whenever it is impossible to complete delivery of that file. If the size of the file not being delivered is greater than the BITNET/INTERNET/BITNET "file expectation size", it is desirable that the error message specify that this is the reason the file was not forwarded. Only enough of the file to facilitate its identification should be included in the non-delivery notice; the whole file should not be returned if the file is large. NOTE: In practice, the inclusion of "file expectation size exceeded" messages in this notification may have to wait until software has been modified and is therefore suggested rather than required.

Nodes may delay the transmission of large files as necessary for effective queue management, except that every effort should be made to deliver all files within two working days. (If that is repeatedly not possible for some node, software and/or network reconfiguration should be done if possible, to relieve the situation.) In extreme situations, delivery of especially large files may be delayed until the weekend. Delays longer than a week should generally be treated as non-delivery, with the delayed files being purged and non-delivery messages sent to their senders.