                        HARVARD'S NETWORK RJE

Section I

    RJE was designed to provide network users with the facility of
    submitting jobs to remote servers via the ARPA net and retrieving
    results using Harvard's PDP-10.

    In order to be an expert in the use of the RJE program from a remote
    host, the user must be familiar with the FTP commands and usage. At
    present RJE is only implemented for UCLA. Accordingly, all examples
    will deal with the UCLA installation. Arrangements for a password
    and a job ID must be made at UCLA before usage is to begin. If you
    are interested, we will see to it that an account is made up for you.
    People at other sites should deal directly with UCLA to get an
    account.

Section II

                     HOW TO USE RJE AT HARVARD

    Start the program by taping R RJE<CR> at monitor level. RJE will
    respond with a "!".

    Then type "RJE UCL<CR> to make the TELNET connection. The TELNET
    connection is used for transfer of commands to UCLA and error
    messages from UCLA to the user of RJE. It is important to realize
    that, in using RJE, one is talking to two systems; the local system
    (HARV-10) and the remote host where the job will actually be run.
    Therefore, there are two command processors, one local and one
    foreign.

                 COMMANDS TO THE LOCAL (HARVARD) PROCESS

    All commands to the local process begin with a *.

    *READ LDEV:FILENAME.EXTENSION<CR>

    Reads the specified file, which contains all job cards, JCL, program
    and data, formats it for RJS at UCLA and ships it over a data
    connection. When using the data connection, ASCII files are
    translated into EBCDIC, the UCLA end of the connection. After
    transfer is completed the file is immediately spooled for processing.

    *PRINT LDEV:FILENAME.EXTENSION<CR>

Gets the next print file from UCLA's 91 and reformats the print file
for a PDP-10 line printer. Write the file to the user's specified
logical device with the specified FILENAME.EXTENSION. FILENAME is up
to 6 characters in length and EXTENSION is up to 3 characters in
length.

    *QUIT<CR>

Tear down all connections used by RJE and return to monitor level.

                    COMMANDS TO THE REMOTE PROCESS
                          (UCLA RJS COMMANDS)

Commands to the remote process have no special character preceding a
command. For a explanation of the command arguments, ask Terry Sack
for the document named, RJS OPERATOR COMMANDS FOR REMOTE TERMINALS.

Terminal Control and Information Command
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    SIGNON   First command of a session identifies VRBT
                        (virtual remote batch terminal) by giving its
                        terminal ID. For UCLA, Harvard's terminal ID is
                        NETHARV.

    SIGNOFF   Last command of a session; RJS waits for any data
                        transfer in progress to complete and then closes
                        all connections.

    STATUS   Outputs on the local user's terminal a complete
                        list, or a summary, of all jobs in the system for
                        this VRBT, with an indication of their
                        progressing status in the Model 91.

    ALERT   Outputs on the user's terminal any special
                        "Alert" message from the CCN computer operator.
                        The Alert message is also automatically sent when
                        the user does a SIGNON, or whenever the message
                        changes.

    MSG   Sends a message to CCN computer operator or to
                        any other RJS terminal (real or virtual). A
                        message from the computer operator or another RJS
                        terminal will automatically appear on the user's
                        terminal.

Job Control and Routing Commands
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Under CCN's job management system, the default destination for output
is the input source. Thus, a job submitted under a given VRET will
be returned to that VRBT (i.e., the same terminal ID), unless the
user's JCL overrides the default destination.

RJS places print and punch output destined for a particular remote
terminal into either an Active Queue or a Deferred Queue. When the
user opens his print or punch output channel (via the *PRINT command
of RJE), RJS immediately starts sending job output from the Active
Queue, and continues until this queue is empty. Job output in the
Deferred Queue, on the other hand, must be called for by job name
(via a RESET command from the remote operator) before RJS will send
it. The Active/Deferred choice for output from a job is determined
by the deferral status of the VRBT when the job is entered; the
deferral status, which is set to the Active option when the user
signs on, may be changed by the SET command.

SET   Allows the remote user to change certain
                    properties of his VRBT for the duration of the
                    current session

                    (a) May change the default output destination to
                    be another (real or virtual) RJS terminal or the
                    central facility.

                    (b) May change the deferral status of the VRBT.

DEFER   Moves the print and punch output for a specified
                    job or set of jobs from the Active Queue to the
                    Deferred Queue. If the job's output is in
                    process of being transmitted over a channel, RJS
                    aborts the channel and saves the current output
                    location before moving the job to the Deferred
                    Queue. A subsequent RESET command will return it
                    to the Active Queue with an implied Backspace
                    (BSP).

RESET   Moves specified job(s) from Deferred to Active
                    Queue so they may be sent to user. A specific
                    list of job names or all jobs can be moved with
                    one RESET command.

    ROUTE   Re-routes output of specified jobs (or all jobs)
                           waiting in the Active and Deferred Queues for
                           this VRBT. The new destination may be any other
                           RJS terminal or the central facility.

    ABORT   Cancels a job which was successfully submitted
                           and awaiting execution or is currently executing
                           in the Model 91. If the cancelled job was in
                           execution, all output it produced will be
                           returned.

 Output Stream Control Commands
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    BSP (BACKSPACE)   Backspaces output stream within current SYSOUT
                           data set. Actual amount backspaced depends upon
                           SYSOUT blocking but is typically equivalent to a
                           page on the line printer.

    CAN (CANCEL)   (a) On an output channel, CAN causes the rest of
                           the output in the SYSOUT data set currently being
                           transmitted to be omitted. Alternatively, may
                           omit the rest of the SYSOUT data sets for the job
                           currently being transmitted; however, the
                           remaining system and accounting messages will be
                           sent.

                           (b) On an input channel, CAN causes RJS to ignore
                           the job currently being read. However, the
                           channel is not aborted as a result, and RJS will
                           continue reading in jobs on the channel.

                           (c) CAN can delete all SYSOUT data sets for
                           specified job(s) waiting in Active or Deferred
                           Queue.

    RST (RESTART)   (a) Restarts a specified output stream at the
                           beginning of the current SYSOUT data set or,
                           optionally, at the beginning of the job.

                           (b) Marks as restarted specified job(s) whose
                           transmission was earlier interrupted by system
                           failure or user action (e.g., DEFER command or
                           aborting the channel). When RJS transmits these
                           jobs again, it will start at the beginning of the
                           partially transmitted SYSOUT data set or,
                           optionally, at the beginning of the job. This
                           function may be applied to jobs in either the

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Active or the Deferred Queue; however, if the job
was in the Deferred Queue then RST also moves it
to the Active Queue. If the job was never
transmitted, RST has no effect other than this
queue movement.

REPEAT   Sends additional copies of the output of
                      specified jobs.

EAM   Echoes the card reader stream back in the printer
                      or punch stream, or both.

Section III

USE OF RJE FROM A REMOTE HOST

To use RJE from a remote Host, make a TELNET connection to Harvard's
10 via your TELNET program. Login under one of Harvard's guest
accounts: type LOGIN <CR>. LOGIN will prompt you with a #. When it
does, type 62,# <CR>. Answer all questions that are asked.

USING FTP TO TRANSFER FILES

Prompts:

"*"   Prompt from FTP when no network connections are established.

"!"   Prompt when network connections are open.

Type R FTP<CR>, then type 'Host host # or abbreviation' <CR> to set
up a TELNET connection. The local FTP process will then type the
foreign host's greeting message.

If transferring files to or from other than a PDP-10, type the
commands 'TYPE A' and 'BYTE 8', each followed by a carriage return.

!USER 'Your project, programmer number'<CR>
     Tell the server who you are. The USR command should be the
     first command to FTP.

!RETRIEVE FILENAME.EXTENSION <CR>
     Retrieve a file from the foreign host. After the message
     "transfer completed" has been typed, use the QUIT command.

!QUIT<CR>
     Break connections return to monitor level. After you have
     transfered your files consult Section II for the usage of RJE.

Warning!!!

The RJE program formats printer output for a PDP-10 line printer. If
you plan to use another type of printer, special arrangements will
have to be made.

Also, never leave a file on Harvard's disk area when detached. A
detached job is a job to which no terminal is assigned. You may find
that your file is gone when you come back. We have limited disk
resources and, if a crisis arises, files belonging to detached jobs
are subject to deletion.

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