OUTPUT MARKING TELNET OPTION

Status of this Memo

This RFC proposes a new option for Telnet for the ARPA-Internet
community, and requests discussion and suggestions for improvements.
Distribution of this memo is unlimited.

Overview

This proposed option would allow a Server-Telnet to send a banner to
a User-Telnet so that this banner would be displayed on the
workstation screen independently of the application software running
in the Server-Telnet.

1. Command Name and Code

OUTMRK   27

2. Command Meanings

IAC WILL OUTMRK

Sender is willing to send output marking information in a
subsequent sub-negotiation.

IAC WON'T OUTMRK

Sender refuses to send output marking information.

IAC DO OUTMRK

Sender is willing to receive output marking information in a
subsequent sub-negotiation.

IAC DON'T OUTMRK

Sender refuses to accept output marking information.

IAC SB OUTMRK CNTL data IAC SE

The sender requests receiver to use the data in this
subnegotiation as a marking for the normally transmitted Telnet
data until further notice. The CNTL octet indicates the position
of the marking (see below).

    IAC SB OUTMRK ACK IAC SE

       The sender acknowledges the data and agrees to use it to perform
       output marking (see below).

    IAC SB OUTMRK NAK IAC SE

       The sender objects to using the data to perform output marking
       (see below).

3. Default

   WON'T OUTMRK

       Output marking information will not be exchanged.

   DON'T OUTMRK

       Output marking information will not be exchanged.

4. Motivation for the Option

   The security architecture of some military systems identifies a
   security level with each Telnet connection. There is a corresponding
   need to display a security banner on visual display devices.
   (Reference: Department of Defense Trusted Computer System Evaluation
   Criteria, Section 3.1.1.3.2.3, Labeling Human-Readable Output.)

   The output marking is currently done by transmitting the banner as
   data within each screen of data. It would be more efficient to
   transmit the data once with instructions and have User-Telnet
   maintain the banner automatically without any additional
   Server-Telnet action. This frees Server-Telnet from needing to know
   the output device page size.

   Under this proposal Server-Telnet would send an option sequence with
   the command, a control flag, and the banner to be used. While
   current systems use the top of the screen, it is conceivable other
   systems would want to put the banner at the bottom or perhaps even
   the side of the screen. This is the reason for the control flag.

5. Description of the Option

   Either side of the session can initiate the option; however, normally
   it will be the server side that initiates the request to perform
   output marking. Either the Server-Telnet sends "WILL OUTMRK" or the
   User-Telnet sends a "DO OUTMRK". The party receiving the initial

"WILL" (or "DO") would respond with "DO" (or "WILL") to accept the option. Then Server-Telnet responds with the marking data. The format of this is:

    "IAC SB OUTMRK CNTL data IAC SE"

        CNTL is the Control Flag described below,
        the data is in ASCII.

If this is satisfactory, User-Telnet responds:

    "IAC SB OUTMRK ACK IAC SE"

        ACK is the ASCII ACK (6).

From this point, User-Telnet will have to translate any command which uses cursor controls so that the application data is mapped to the application part of the screen.

If the data passed in the subnegotiation field is unacceptable to User-Telnet, then it responds with:

    "IAC SB OUTMRK NAK IAC SE"

        NAK is the ASCII NAK (21).

It is now up to Server-Telnet to start the sequence over again and use "more acceptable" data (or possibly take other action such as connection termination).

To terminate output marking, Server-Telnet transmits "WON'T OUTMRK".

If necessary, User-Telnet would notify Server-Telnet about the new effective page size. User-Telnet would then map the output data to the allowed usable space on the screen.

User-Telnet may request OUTMRK data or initiate setup of this convention at anytime by transmitting "DO OUTMRK". If a WILL, DO OUTMRK exchange is not followed by the OUTMRK subnegotiation of the marking data, the User-Telnet may terminate the output marking option by sending a "DON'T OUTMRK".

Control Flag

The CNTL flag is defined as:

D = Default, the placement of the markings is up to
    User-Telnet. This is the expected mode for most
    interactions.

T = Top, this banner is to be used as the top of the screen.
    If multiple output markings are desired, then T and B (or R
    & L) are to be used.

B = Bottom, this banner is to be used at the bottom of the
    screen.

L = Left, markings on the left. (The precise meaning of this
    is to be defined.)

R = Right, marking on right. (The precise meaning of this is
    to be defined.)

Banner Data

The use of Carriage Return and Line Feed (CRLF) will be
interpreted as a end of line in the marking banner text. If the
user wants a multiline banner, CRLF will be used between each
line. No CRLF is needed at the end of the marking data.

To use multiple banners, all of the banners will be included in
one subnegotiation command of the form:

    "IAC SB OUTMRK CNTL data GS CNTL data IAC SE"

    where GS is the ASCII Group Separator (29) character.

User-Telnet will be responsible for positioning the marking banner
data on the screen.