Network Working Group
Request for Comments: 933

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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.