AUTHORS

Robert Viduya - SunView based 3270tool

Jeff Sparkes - X11 port

Edward Parks - HDS ViewStation port

BUGS

Since the custom font is not substitutable, the program cannot be coerced into using a different sized font. This means that the window is essentially fixed in size. If somebody wishes to contribute different sized fonts, I’ll welcome them.

Sun Release 4.1 Last change: February 16, 1993

2.3.3 Open Connect tn3270 Terminal Emulation

The HDS ViewStation also supports an IBM 3270 emulation provided by Open Connect Systems. This emulation client is available only with appropriate licensing from HDS Network Systems, Inc. A separate set of manuals and documentation are supplied with the OCtn3270 client.

The Open Connect tn3270 client provides some additional functionality for the 3270 interface, including X11 fonts, color support, and so on. However, these are capabilities not always used or supported by the IBM host. If you are using an Open Connect emulation on the host computer, you will want to use the HDS OCtn3270 client. If, on the other hand, you are using the normal 3270 interface, the HDS3270 client may provide a connection more like the IBM 3270 terminal.

The Open Connect tn3270 ViewStation client is available with a software license form HDS Network Systems, Inc. Separate software and documentation is provided.

2.3.4 Tandem 6530 Terminal Emulation

The Tandem 6530 terminal emulation is available with appropriate licensing from HDS Network Systems, Inc. A separate set of manuals and documentation are supplied with the Tandem 6530 client.

Mod1<Key>i: Insert()\n\
<Key>osfInsert: Insert()\n\
Mod1<Key>d: Delete()\n\
Mod1<Key>h: Home()\n\
Ctrl<Key>l: Redraw()\n\
<Key>:   Default()

Note that the left button may be used to move the cursor.

Mod1 is the Alt key on an IBM keyboard.

This is the complete list of actions:

l l l l Redraw Insert Enter AltCursor MonoCase Tab BackTab Reset Left Left2 Right Right2 Up Down Newline Dup Field-Mark PA1 PA2 SysReq Clear CursorSelect EraseEOF EraseInput Home Delete Default MoveCursor String ShiftOn ShiftOff PF1-PF24

MACROS

A simple macro facility is provided via the String action. The arguments to String() are one or more double-quoted strings which are inserted directly as if typed. Hex constants may be entered in the form 0xff, and the C backslash conventions are honored as follows:

l l. \b Left \f Clear \n Enter \r Newline \t Tab

An example action would be:

Mod1<Key>p: probs clearrdr\n")

Note: The strings are in ASCII and converted to EBCDIC, so beware of inserting control codes.

COLOR

hds3270 does not understand IBM 3270 color protocols. It merely draws text in one of three colors depending on the field attributes. Those colors may be customized using the following resources:

hds3270.normalColor: green
hds3270.boldColor: cyan
hds3270.inputColor: orange
hds3270.colorBackground: black

It is possible to get monochrome colors and behaviour using the -mono switch.

FILES

/usr/lib/X11/app-defaults/HDS3270

SEE ALSO

telnet(1), tn3270(1)

X Toolkit Intrinsics (R4 version)

```
     <Key>osfDown:                          Down()\n\
     Shift<Key>osfDelete:                   EraseEOF()\n\
     ~Shift<Key>osfDelete:                  Delete()\n\
     <Key>osfBackSpace:                     Left()\n\
     <Btn1Down>:                            MoveCursor()\n\
Shift<Key>osfHelp:                          PF13()\n\
Shift<Key>F2:                               PF14()\n\
Shift<Key>F3:                               PF15()\n\
Shift<Key>osfMenu:                          PF16()\n\
Shift<Key>F5:                               PF17()\n\
Shift<Key>F6:                               PF18()\n\
Shift<Key>F7:                               PF19()\n\
Shift<Key>F8:                               PF20()\n\
 Shift<Key>F9:                              PF21()\n\
Shift<Key>osfMenuBar:                       PF22()\n\
 Shift<Key>F11:                             PF23()\n\
Shift<Key>F12:                              PF24()\n\
<Key>osfHelp:                               PF1()\n\
<Key>F2:                                    PF2()\n\
<Key>F3:                                    PF3()\n\
<Key>osfMenu:                               PF4()\n\
<Key>F5:                                    PF5()\n\
<Key>F6:                                    PF6()\n\
<Key>F7:                                    PF7()\n\
<Key>F8:                                    PF8()\n\
<Key>F9:                                    PF9()\n\
<Key>osfMenuBar:                            PF10()\n\
<Key>F11:                                   PF11()\n\
<Key>F12:                                   PF12()\n\
Shift<Key>osfCancel:                        Reset()\n\
~Shift<Key>osfCancel:                       Clear()\n\
Mod1<Key>c:                                 Clear()\n\
Mod1<Key>r:                                 Reset()\n\
Mod1<Key>1:                                 PA1()\n\
Mod1<Key>2:                                 PA2()\n\
```

There are three levels of translation tables in hds3270. The first is a default, compiled in table. It defines alphabetic, numeric, function keys, and such basic functions as Enter and Delete. It allows a minimal useful functionality.

The second level is a keyboard specific table, which is found in the application default file, which defines actions for such things as keypad keys, and keys unique to certain keyboards.

The third level is a user customizable table which may be used to augment or override key definitions. You must specify the -keymap <name> argument if you make changes to this file, otherwise the client will simply read its internal default ibm file. The keymap file is typically found in the users .Xdefaults file. The naming for a lex122 keyboard would be:

```
hds3270.keymap.lex122:
hds3270.keymap.lex122.user:
```

The default translation table is:

```
l     l     .
<Expose>:                          Redraw()\n\
Shift<Key>Return:                  Newline()\n\
~Shift<Key>Return:                 Enter()\n\
Shift<Key>osfActivate:             Newline()\n\
~Shift<Key>osfActivate:            Enter()\n\
<KeyPress>Caps_Lock:               ShiftOn()\n\
~Shift<KeyRelease>Caps_Lock:       ShiftOff()\n\
<KeyPress>Shift_L:                 ShiftOn()\n\
~Lock<KeyRelease>Shift_L:          ShiftOff()\n\
<KeyPress>Shift_R:                 ShiftOn()\n\
~Lock<KeyRelease>Shift_R:          ShiftOff()\n\
Shift<Key>Tab:                     BackTab()\n\
~Shift<Key>Tab:                    Tab()\n\
Ctrl<Key>h:                        Home()\n\
<Key>osfBeginLine:                 Home()\n\
~Mod1~Shift<Key>osfLeft:           Left()\n\
Mod1~Shift<Key>osfLeft:              Left2()\n\
~Mod1Shift<Key>osfLeft:            Left2()\n\
~Mod1~Shift<Key>osfRight:          Right()\n\
Mod1~Shift<Key>osfRight:           Right2()\n\
~Mod1Shift<Key>osfRight:           Right2()\n\
<Key>osfUp:                        osfDown: Down()\n\Up()\n\
```

NAME

hds3270 - IBM remote host access tool

SYNOPSIS

hds3270 [-model [2345]] [-port portnum] [-keymap name] [-initstr string] [-mono] host

DESCRIPTION

hds3270 opens a telnet connection to the given IBM host in an X window. The created window provides a fairly complete IBM 3278 terminal emulation. Since the window created by hds3270 uses its own font for displaying characters, is a fairly accurate representation of a 3278. It is similar to tn3270 (1) except that it is X based, not curses based.

hds3270 is a toolkit based program, it also understands all of the standard options and resources. The most important are "-rv" and "*reverseVideo" on mono systems.

The type of 3278 to be emulated is given by the -mode switch. The sizes of various emulated models are:

1. Model 2 80x24 Model 3 80x30 Model 4 80x43 Model 5 132x27

The default is Model 2 emulation.

The -port switch can be used to define the TCP port to connect to. The default port is the telnet port.

The -initstr switch can be used to specify a string to send the remote host once the TCP connection is established.

KEYMAPS

The type of keyboard may be specified with the -keymap switch or using either the KEYMAP or KEYBD environment variables. The types of supported keyboards include ibm (standard IBM 101/102 keyboards) and lex3270 (Lexmark 122 keyboard configured to use 3270 KeySyms). If you make changes to the keymap file, you must specify the -keymap <name> argument, otherwise the client reads its internal default ibm keymap.

The X Toolkit translation mechanism is used to provide keyboard emulation. It maps events into actions. The best documentation can be found with X11R4 X toolkit documents, but the following should suffice for simple customization.

An Xt event consists of (at least) four fields. The first is called a modifier. It may be any combination of alt, meta, shift and ctrl. If it is prefaced by !, it means those modifiers only. The second field is the specific event, in hds3270 usually just <Key>. The third field is the detail field, which gives the actual key. The name of the key may be determined using the R4 xev program. The last field is the action, which is the internal emulator function. A complete list of actions may be found later in the manual.

HDS Local Terminal Emulation Clients

This chapter describes other HDS ViewStation Local Terminal Emulation clients, HDS3270, Open Connect tn3270, and Tandem 6530.

Section 2.0 - HDS ViewStation Local Clients

2.3 HDS Local Terminal Emulation Clients

ViewStation terminal emulation clients are the primary user interface to a host computer. They control the appearance of the login window, its keymappings, and its operating characteristics.

The principal terminal emulation is HDSterm, which is described in Section 2.2.

Other terminal emulations are HDS3270, which simulates an IBM 3270 terminal. The HDS3270 client is useful when connecting to an IBM mainframe computer that expects 3270 terminal commands. The HDS3270 client uses a normal IBM 101 keyboard, though a Lexmark 122 keyboard is also supported.

2.3.1 Using Local Clients

The HDSperx local clients are available with HDSware (except for licensed products) in the */hds-fx/bin* directory. There are also entries for the clients in the */hds-fx/config/clients.config* file, though the entries for some clients may be commented out. You can add them to your window manager's pull-down menu by removing the comment characters.

Refer to Section 2.1 for more details. Note that the hds3270 client requires a hostname on its command line, so simply uncommenting the entry will not start the client; you must add the host name to the defArgs command line.

2.3.2 HDS3270 Terminal Emulation

This is the HDS3270 client manual page.