Thinvent Dumb Terminal User Manual

Introduction

Thinvent has developed a highly customised thin client based Dumb Terminal by leveraging their expertise in embedded system design. Thinvent's Dumb Terminals are highly compatible with legacy products and have been handling the most time critical mission of train ticketing.

Thinvent's Dumb Terminals support the following:

- Server based UTS and PRS applications running in terminal emulation mode.
- Connection to servers using both serial (25 pin/9 pin) connection to Terminal Servers, and Ethernet (IP) connection to network switch.

Dumb Terminal Features:

- Ruggedised hardware to withstand harsh Indian operating conditions.
- Customised to support the CRIS PRS and UTS application.
- RS232C interface with 25 pin D-type male and LAN connectivity to Railways Servers.
- ISCII (83, 88 and 91) printing for tickets with Epson emulation standards configurable for both serial and parallel ports.
- Railways UTS and PRS form downloadable capacity with answer back support.
- Compatible with DEC VT200 style 105 keys Keyboard, as well as PC 104 and 107 key keyboards.
- Remote accessibility is disabled.
- Built in calculator, calendar, clock and other helpful tools.
- Fastest hardware in the market with 1.6 GHz Intel Atom processor, 1GB DDR3 RAM and 4GB flash. Gives twice the performance of competing thin clients.
- Two high speed serial ports and one Centronics Parallel port built in.
- Uses Thinvent's secure Thinux Embedded Linux operating system with industry lowest footprint.

Keyboard Features:

- Long Life Mechanical Switch more than 50 million strokes per switch
- Compatible with all our thin client products
- Feather Touch, Power Impact Operating force: 60+ / -15 cN
- Low Fatigue to User Sculpted keycap with "click" sounds for key press
- Highly Reliable More than 200,000 Hrs MTBF
- Colour Black

• Connectivity – PS/2

Installation:

Step 1: Unpack the machine and connect the VGA, Adaptor, 25 pin serial, PS/2 keyboard, display and Printer in proper order.



Step 2: Check the connection thoroughly and switch on the machine and connect devices.

Step 3: When the machine starts press Enter and you will see "Local>" on the screen.

Local>	
VI100 Beginning Par Printer OK 14:06:55 Thu 30 Oct 2014	

Note:

- 1. If Local doesn't show then check the connectivity, Baud rate as well as system settings properly.
- 2. If you short 2-3 pins of 25 Pin Serial Connector on Dumb Terminal, then press any keys, the keys you type will show on the monitor. If this works then Dumb Terminal is fine; please check your connectivity.

Main Menu:

By pressing the F3 key the terminal enters the Main Menu. To return back press F11 or select the last option in the menu (Exit Setup).



Main Menu Options:

1. Reset Serial Terminal: Causes the terminal to reset and come back to the local screen.



2. Reset All Network Terminals: To reset (restart) all network terminal connections.

3. Serial Settings: To set the serial settings of the Dumb terminal.

3.1 Baud Speed: To set the Baud Speed of the Dumb Terminal.

Serial port settir	ngs page
	Serial Port Settings Please provide the following Serial port related information.
	Baud Speed96002 Software Flow Control On3 Hardware Flow Control Off4 PortMain0 Save and Exit
	<pre> Cancel> </pre>

In the next menu, you can select from one of various predefined baud speeds:

Baud rate settings page		
	Baud rate Settings	
	Please select the baud rate of the Serial port.	
	<pre>() 4800 (*) 9600 () 19200 () 38400 () 57600 () 115200</pre>	
	< <u>Submit></u> <cancel></cancel>	

3.2 Software Flow Control: Lets you set the software flow control (XON/XOFF). This setting should usually be kept ON / Enabled.

Software Flow Con	trol settings page
	Software Flow Control Settings Do you want to enable or disable software flow control (XON/XOFF). Kenable > (Disable>



3.3 Hardware Flow Control: To set the hardware flow control. This setting should usually be kept OFF / Disabled.

3.4 Port: Used to select the ports of Dumb Terminal.

Port selection page	
	Port Settings Please select the port to use for communication.
	(*) Main () Aux () Offline
	<pre></pre> <submit> <cancel></cancel></submit>

There are 3 ports named:

Main: Select main when you connect DT to server through 25 pin serial.

Aux: Used for 9 pin serial connection.

Offline: Facilitate automatic loopback.

To move **up** and **down** use navigation keys and to select port use space bar.

Save and Exit: After setting and selection you can save your setting and exit from this menu.

4. Printer Setting: Select printer settings option from main menu to enter in printer settings.

Main menu		
	Main Menu Please choose the item you wish to change.	
	1 Reset Serial Terminal 2 Reset All Network Terminals 3 Serial Settings 4 Printer Settings 5 Check Terminal Answerback 6 Select Emulation Type 7 System Information 8 Set Terminal Width 9 Keyboard Settings 0 Exit Setup	
	<pre></pre> <pre> </pre>	

4.1 Printer Port: By selection of this menu you can move to port selection menu where you can choose parallel or serial port for printer connectivity.

Printer settings p	oage
	Printer Settings
	Please provide the following printing related information.
	Printer PortParallel2Printing Type0Save and Exit
	<pre><submit> <cancel></cancel></submit></pre>

Printer port selection p	oage
	Printer Port Selection Please select which port to use for printing.
	(*) Parallel () s Serial
	<pre><submit> <cancel></cancel></submit></pre>

4.2 Printing Type: This menu is used for selecting Printing Types.

Printer settings pag	e,
	Printer Settings Please provide the following printing related information.
	1 Printer Port Parallel 2 Printing Type Ticketing 0 Save and Exit
L	<pre><submit> <cancel></cancel></submit></pre>

Printing	type selection page
	Printing Type Selection Please select the type of printing.
	() c Hindi Charting () d Condensed Font Hindi Charting (*) t Ticketing, Reporting, English Charting, etc.
	<pre></pre>

Here you can select different printing types as per your requirements.

- *Hindi Charting:* To print hindi chart
- *Ticketing, Reporting, English Charting*: To print ticket, report and English chart.
- **Condensed Font Hindi Charting**: If you select condensed mode in printer then you have to select this option to print condensed font hindi charting.

4.3 Save and Exit:To save your setting and go back to main menu select this option.

5. Check Terminal Answerback: This option is to check Terminal Answerback.





6. Select Emulation Type: This option is to select Emulation Type which you wish to use.



Note : Default emulation type is VT100.

Emulation selection page	
	Emulation Selection Please select which emulation you wish to use. (*) VT100 VT100 () VT320 VT320
	<pre></pre>

7. System Information: To check System Information of your working terminal.



Etherne	t Network							
	MAC Address	00:30:18:a	00:30:18:a4:34:06					
	IP Address	192.168.2.	123 ne					
	Link Status	Up						
	Hostname	thinux						
Softwar	e Versions							
	Kernel	3.6.2-thir	их					
	Thinux	Thinux CRI	S UTS					
	Release Date	Thu Oct 30	13:35:10	IST 2014				
Memoru	Status							
nemor g	total	used	free	shared	buffers	cached		
Mem:	1021852	279396	742456	0	27248	190732		
Disk St	atus							
Filesys	tem Size	Used Avail	Use% Moun	ted on				
aufs	3.76	262M 3.30	8% /					
aufs	499M	812K 499M	1 1% /var					

8. Set Terminal Width: Used to set working terminal screen size.

Main menu	
	Main Menu Please choose the item you wish to change.
	1 Reset Serial Terminal 2 Reset All Network Terminals 3 Serial Settings 4 Printer Settings 5 Check Terminal Answerback 6 Select Emulation Type 7 System Information 8 Set Terminal Width 9 Keyboard Settings 0 Exit Setup
	<pre>Submit> <cancel></cancel></pre>

Screen size settings pag	ge
	Screen size Settings Please select the screen size. (*) 80 () 132
	<pre><submit> <cancel></cancel></submit></pre>

• It is recommended to not use this setting

9. Keyboard Setting: This option of Main Menu is used for Keyboard setting.



Keyboard settings page	
	Keyboard Settings Please select the keyboard type. (*) Normal () Application
	<pre><submit> <cancel></cancel></submit></pre>

It is recommended to not use this setting

10. Exit Setup: This option is used to exit from Main Menu.



Key Codes:

Hold Print Set-Up Data/ Screen Screen Set-Up Talk Break	FG F7 F8 F9 F10	F11 F12 F13 F14 (ESC) (BS) (LF) F14	Hold Screen Lock Compose Wait	F17 F18 F19 F20
56 57 58 59 5A	64 65 66 67 68	71 72 73 74	Help Do 7D	80 81 82 83
Esc 1 co 2 cs 3 cB 4 Do 5	% ^ & * () 5 d6 6 d8 7 e0 8 es 9 ea 0 f	EF - F9 = F5 BC	Find Insert Re- 8A Here B	PF1 PF2 PF3 PF4 A1 A2 A3 A4
	TYUIOC E1 E6 EB	P { } Return F0 [FA] F6	Select 8D Screge Screge	7 8 9 - 9D 9E 9F A0
A S D F	G H J K L D2 D8 DD E2 E7 EC	F2 FB BD		4 5 6 ' 99 9A 9B 9C
Shift Z X C C3 C8 CE	V B N M , .	ED / F3 AE	47 49 A8	1 2 3 Enter
Lock Compose Character B0 B1		D4	1 2 3 4 5 6 7 8 9 10 11 12 13 14	0 · 92 94 95

- F1: By pressing the F1 key the screen freezes and stops taking any input and displays the 'HOLD' message on the taskbar which indicate this status. Pressing F1 again returns the terminal to normal operation.
- **2. F2:** By pressing the F2 Key the text on the screen is sent to the local printer to print.
- 3. Ctrl+F6: Calculator [Desktop utility]. Use numeric key to use it.



4. F5: Pressing F5 key causes a communication line disconnection.

5. Ctrl+F7: Calendar [Desktop Utility] : Use left and right arrow to change year.

	2014	
January Su Mo Tu We Th Fr Sa	February Su Mo Tu We Th Fr Sa	March Su Mo Tu We Th Fr Sa
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{smallmatrix}&&&&1\\&2&3&4&5&6&7&8\\&9&10&11&12&13&14&15\\16&17&18&19&20&21&22\\23&24&25&26&27&28\end{smallmatrix}$	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
April Su Mo Tu We Th Fr Sa 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	May Su Mo Tu We Th Fr Sa 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 32 24 25 26 27 28 29 30 31	Su Mo Tu We Th Fr Sa 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 20 29 30
July Su Mo Tu He Th Fr Sa 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	August Su Mo Tu We Th Fr Sa 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	September Su Mo Tu We Th Fr Sa 1 2 3 4 5 6 7 8 9 18 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
October Su Mo Tu We Th Fr Sa 1 2 3 4 5 6 7 8 9 18 11 12 13 14 15 16 17 18 19 28 21 22 23 24 25 26 27 28 29 37 31	31 November Su Mo Tu We Th Fr Sa 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 28 21 22 23 24 25 26 27 28 29 38	December Su Mo Tu We Th Fr Sa 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
_		

6. F11: Press F11 key to quit from Desktop Utility (e.g Calculator, Calendar).

7. PF1 - PF4: In Thinvent 104 mechanical keyboard these keys are available. Each of these keys causes to transmit a code which has a special meaning to your system. Consult your local operating procedures for the meanings of these keys.

PRS Server Setting:

By pressing **"ALT+F3"** or **"ALT+F5"** you can go to Login Page directly for server settings , enter **"prsdba"** as login name.

Thinux Embedded Linux, Kernel 3.6.2-thinux on an i686 (c) Thinvent Technologies Pvt. Ltd. All rights reserved.		
thinux login: prsdba		

Server name and Setting: To change setting select server.

PRS servers definition	program
	Main Menu Please choose the server who's settings you wish to change.
	<pre> Dharma 2 Bhim 3 Arjun 4 Karna 5 Sahdev 6 One 7 Two 8 Three 0 Save and Exit </pre> <pre> Save and Exit </pre>

Server name and IP Address of server: Select to choose server name and provide server IP.

PRS server setting	gs page	
	PRS Server Settings Please provide the following PRS server related information.	
	Server Name : Dharma Server IP : 10.128.0.111	
	<submit> <cancel></cancel></submit>	

3. Submit: To save settings.

PRS server settings page	
Pleas	PRS Server Settings se provide the following PRS er related information.
Ser	ver Name : Server 1 ver IP : 192,168,10.1
	<submit> <cancel></cancel></submit>

4. Save and Exit :This option is used to save and exit from server setting.

PRS servers definition p	rogram
	Main Menu Please choose the server who's settings you wish to change. 1 Server 1 2 Bhim 3 Arjun 4 Karna 5 Setder
	5 Sahdev 6 One 7 Two 8 Three 6 Save and Exit (Submit) <cancel></cancel>

Root Login

Press "alt+F4" and you go to the terminal where you have to login as root like this:



*password : xxxxxx

Setup (Superuser menu)

First you have to login as root after that type command "setup" in the command prompt like this:

```
Thinux Embedded Linux, Kernel 3.6.2-thinux on an i686
(c) Thinvent Technologies Pvt. Ltd. All rights reserved.
Password:
Last login: Fri Nov 14 17:17:30 on tty4
Iroot@thinux ~j# setup
```

By pressing enter you find superuser menu.

Superuser Menu	
	Superuser Menu Please choose the item you wish to change. Change root Password 2 Network Settings 3 Edit hosts file 4 Change admin Password 0 Exit Setup
	<pre></pre> <cancel></cancel>

1. **Change root password:** To change root password by entering new password and after that conforming it and save by submitting.

Superuser Menu	
	Superuser Menu Please choose the item you wish to change.
	1 Change root Password 2 Network Settings 3 Edit hosts file 4 Change admin Password 0 Exit Setup
	<pre><submit> <cancel></cancel></submit></pre>

Password settings page	
Pas Please root p 	e provide the new bassword.
Password confirmation page	

	Password Confirmation Please confirm the new root password.	
l	<pre><submit> <cancel></cancel></submit></pre>	

2. Network Setting: To setup Network host name, Network IP, Netmask, Gateway and

DNS address and save this change by clicking "submit" button.

Network settings p	page	
	Network Settings Please provide the following network related information.	
	Hostname : <u>thinux</u> IP Address : 192.168.2.123 Netmask : 255.255.255.0 Gateway Address : 192.168.2.1 DNS Address :	
	<submit> <cancel></cancel></submit>	

3. Edit Hosts File: To edit and save hosts file.

	GNU	nano	2.3.1	File:	/etc/hosts
#	***	****	****	*****	*****
# # #	Auth Copy Hist date	nor yright tory :	: Thinve t(c): 2008 T : person	nt Technologie hinvent Techno comments	es Pvt. Ltd. ologies Pvt. Ltd., All rights reserved
# # # #	==== 27/9 29/2	===== 9/2008 2/2009	================= 3 Saurabh 9 Saurabh	Initial vers: Updated per (ion CRIS Delhi requirements
# # #	Do r	not re	emove the fo	llowing line,	or various programs
# 12 :: # #1	tha 27.0 :1 Char .0.64	t requ .0.1 nge to 1.9.82	Jire network localh localh new IP, an 2 hostna	functionality ost.localdoma ost localhost d change hostr me	y will fail. Nn localhost thinux .localdomain localhost6 localhost6.localdoma\$ name to new hostname. Then remove #
^(^)	Get (Ex:	t Help it	o <mark>^O</mark> WriteO <mark>^J</mark> Justif	<mark>[Rea</mark> ut ^R Read Fi y ^W Where i	ad 19 lines] ile ^Y Prev Page <mark>^K</mark> Cut Text <mark>^C</mark> Cur Pos Is <mark>^V</mark> Next Page <mark>^U</mark> UnCut Text <mark>^T</mark> To Spell

	GNU nano 2.3.1	File: /etc	c/hosts	
#	*********************	* * * * * * * * * * * * * * * * * *	* * * * * * * * * * * * * * * * * * * *	• * * * * * * * * * * * * * * * * * * *
# #	Author : Thinvent	Technologies P	vt 1 td	
#	Copuriaht(c): 2008 Thi	nvent Technolog	ies Pvt. Ltd All	rights reserved
#	History :			
#	date person d	comments		
#		=======================================		
# #	27/9/2008 Saurabh I 20/2/2000 Saurabh I	nitial Version	Dolbi roquiromonto	
# #		ipuareu per ckis	beini requirements	
#	* * * * * * * * * * * * * * * * * * * *	* * * * * * * * * * * * * * * * *	* * * * * * * * * * * * * * * * * * * *	* * * * * * * * * * * * * * * * * *
#				
	Bar and second second second	Second Research & Research Second		
# #	that require petwork f	owing line, or v Supetionality wi	Various programs	
# 12	7.0.0.1 localbos	t.localdomain	localbost th	ліпих
: :	1 localhos	t localhost.loca	aldomain localhost	5 localhost6.localdoma\$
#	Change to new IP, and	change hostname	to new hostname. 7	[hen remove #
#1	.0.64.9.82 hostname			
E i	lo Namo to Unitor (oto	/booto		
~ G	Get Help M-D	DOS Format	M-A Append	M-B Backup File
^ C	Cancel M-M	Mac Format	M-P Prepend	

4. Change admin password: To change administrator password by providing new password and save it after confirmation.

Password settings page	
	Password Settings
	Please provide the new admin password.
	<pre><submit> <cancel></cancel></submit></pre>

Password confirmation p	age
	Password Confirmation Please confirm the new admin password. [★★★★★★★ <submit> <cancel></cancel></submit>

5. Exit Setup: To exit superuser menu Setup.

Administrator Menu

First you Login as admin and give password like this:



After that you get Administrator Menu.

Admin menu	
	Admin Menu- Please choose the item you wish to change.
	Set System Time2 Change Terminal Answerback3 Aux Port Settings0 Exit Setup
	<pre></pre> <cancel></cancel>

1. Set System Time: To set system time like this:



2. Check Terminal Answerback: To Enable or Disable as well as set terminal answerback like this:

Terminal Answerback se	ttings page
	Terminal Answerback Setting Do you want to enable or disable terminal answerback. The current setting is Disabled. ✓Enable > 〈Disable>

Terminal Answerback	string settings page
	Terminal Answerback String Setting Please enter the terminal answerback value. D02F CoK > <cancel></cancel>



3. Aux Port Setting: Here you can set auxiliary port like this. It is recommended that don't disturb this setting.

Aux port settings	page
	Aux Port Settings Please provide the following Aux port related information. 1 Baud Speed 9600 2 Software Flow Control Off 3 Hardware Flow Control Off 4 Port Main
	Ø Save and Exit

4. Exit Setup: This will exit you from Administrator setup.

References:

- 1. <u>www.thinvent.in</u>
- 2. <u>http://www.thinvent.in/catalog/dt-keyboard/</u>

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