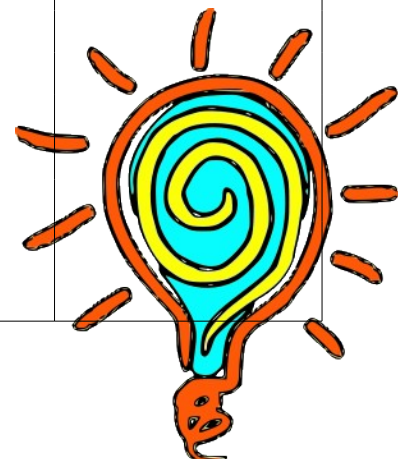


## The Product

Thinvent's Thinix is an Embedded Linux Operating Environment for thin client devices. This document lists the important features of Thinix.

#	Feature	Versions
<b>HARDWARE</b>		
<b>A</b>	<p><b>Supported Processors</b></p> <p>x86: VIA C3, C7, Eden, Nano. Intel Atom N, D, Z series ARM: TI OMAP3530, 3503. Marvell Kirkwood Series</p>	
<b>B</b>	<p><b>Supported Chipsets</b></p> <p>VIA CLE266, CN700, CX700, CX700M2, VX800, VN896 Intel 945GSE, 945GC, NM10</p>	
<b>C</b>	<p><b>Display</b></p> <p>DDC – Display Data Control for automatic selection of resolution 2D and 3D Acceleration. XvMC for in-chipset decoding of MPEG2 and MPEG4 videos Touchscreens from 3M, eGalax, Elo, and others, with calibration and instant touch support</p>	
<b>D</b>	<p><b>Storage and Boot</b></p> <p>IDE and SATA Flash USB flash drives, SD card readers Network boot through PXE</p>	
<b>E</b>	<p><b>USB Peripheral Support</b></p> <p>USB serial and parallel cables USB webcam USB headset and sound USB network device support – Ethernet, WiFi and broadband USB VGA/DVI adaptor support Bluetooth dongles USB touchscreen support USB keyboard, mouse, joystick</p>	
<b>F</b>	<p><b>Printing</b></p> <p>Built-in support for a large variety of printers, including all commonly used printers. Supports Samsung ML and SCX series (SPL2 and SPLc), Lexmark 1000 series, Konica Minolta laser printers, HP M1005 (XQX), Lexmark C500n (SLX), Samsung CLP series (QPDL), HP Laserjet 1500 (OAKT), HP2600n, Oki, etc. Printing from local applications like web browser Support for adding of printer driver files through the management interface IP based remote printing through RDP, LPD and SMB</p>	
<b>F</b>	<p><b>Others</b></p> <p>5.1 channel audio support Hardware monitoring support – temperature, voltage, fan speed IR remote control through Serial, USB and CIR dongles Active power conservation through processor frequency scaling, turning off peripherals, etc.</p>	

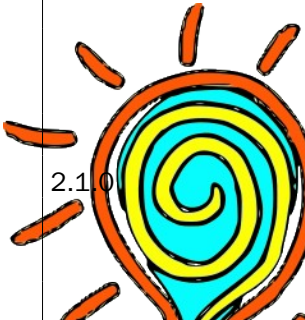


#	Feature	Versions
<b>NETWORKING</b>		
<b>A Protocol Support</b>	TCP/IP v4 and v6 DHCP and DNS client NTP and rdate client – remote date synchronisation	
<b>B Wired Networking</b>	Wake on LAN Ethernet Autosensing	
<b>C Wireless Networking</b>	WiFi – 802.11b, g and n WEP, WPA, WPA2 support RADIUS support Both Ad-hoc and infrastructure modes supported	
<b>D Broadband and WAN</b>	USB modem support – POTS, DSL, GPRS, CDMA, 3G, WiMax PPP and PPPoE VPN support – IPsec, PPTP, SSL	
<b>SOFTWARE</b>		
<b>A OS Features</b>	Embedded Linux firmware. System can be switched off any time without proper shutdown. System state can reset remotely or at boot time Stateless system – state storage can be centralised Local and remote upgrade of firmware	
<b>B Core Components</b>	Linux Kernel Coreutils X11R7	2.6.34 8.4 1.8.2
<b>C Remote Management</b>	Web based remote management system built into the firmware of all thin clients. Management system can be used locally through browser, or remotely from any computer in the network Single or clustered management of thin clients. Most actions can be applied to a set of thin clients collectively. Automatic discovery of thin clients in the LAN or WAN Remote upgrade of firmware through web interface Remotely enable and disable hardware such as pen drives Cloning of settings from one thin client to many thin clients Remote shutdown, wake-on-lan, reboot Remote network configuration Session mirroring through VNC Remote configuration of local and network file systems Remote configuration of printers, system time, firewall Execution of arbitrary Linux commands, remotely through web interface or SSH console. File transfer through web interface, SCP, FTP. Plugin based architecture for future expansion as per customer needs	



#	Feature	Versions
	<p>Task scheduling for unattended upgrades, other administrative tasks</p> <p><b>D GUI Features</b></p> <p>Desktop and kiosk modes</p> <p>Support for saving files on the Desktop and in folders</p> <p>Automatic mounting of removable drives</p> <p>Customisation of boot and desktop background as per customer needs</p> <p><b>E File System Support</b></p> <p>Microsoft – DOS, FAT32, NTFS</p> <p>Linux – Ext2, Ext3, Ext4</p> <p>SMB and CIFS, client and server</p> <p>NFSv3 and NFSv4, client and server</p> <p>Mounting of FTP and SSH trees</p> <p><b>F Remote Monitoring</b></p> <p>Comprehensive remote monitoring system with continuous graphing of important system parameters</p> <p>Monitor disk performance and usage, network traffic, network connections, system temperature and voltages, processor utilisation and number of processes running, memory usage, uptime, time synchronisation, etc.</p> <p>New parameters can be monitored as per customer needs</p> <p>Monitor specific process – such as number of browser sessions</p> <p>Remote and local logging. Centralised log processing.</p> <p>SNMP support with MIB extensions</p> <p>Support for centralised monitoring software such as Nagios</p>	v1, v2c, v3

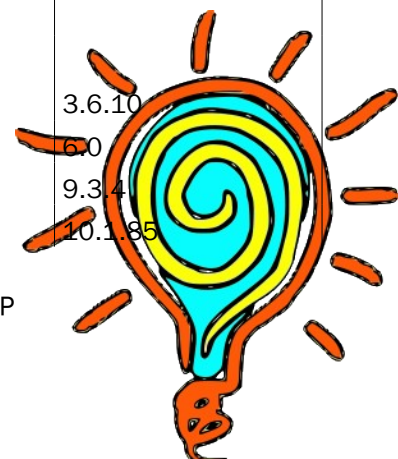
### APPLICATIONS

<p><b>A Multimedia Support</b></p> <p>CD Digital Audio</p> <p>DVD playback with navigation menus</p> <p>Video CDs</p> <p>Video codecs: H.263, H.264/MPEG-4 AVC, MJPEG, MPEG-1, MPEG-2, MPEG-4 Part 2, RealVideo, Sorenson, Theora, WMV</p> <p>Audio codecs: AAC, AC3, AMR, DTS, FLAC, MP3, RealAudio, Speex, Vorbis, WMA</p> <p>Protocols: RTP, RTSP, HTTP, FTP, MMS</p> <p>Streaming video – transmission, playback and recording</p> <p>Local web camera and TV tuner support</p> <p>Music player with library organisation</p> <p><b>B Office Applications</b></p> <p>OpenOffice.Org</p> <p>Spreadsheet, Word processor, Presentation, Drawing, equation support</p> <p>PDF Viewer</p> <p>Image viewer – all popular image formats supported</p> <p><b>C Internet Applications</b></p> <p>Skype, with webcam support</p> <p>Videoconferencing with H.261 and Theora codecs</p> <p>VoIP with SIP protocol; G.722, G.726, Speex, GSM and PCM codecs</p> <p>Chat client with Yahoo!, MSN, Gtalk, Jabber and IRC support</p>	<p>3.2</p> <p>2.1.0</p> 
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#	Feature	Versions
<b>D</b>	<b>Local Applications</b> Support for DOS applications through DOS emulator Support for Win32 applications through Windows emulator Support for Linux console applications, as well as GTK and QT GUI applications Support for local databases – MySQL, Sybase Anywhere, Lotus Expeditor Support for local web applications through Apache and LAMP stack Support for local .NET applications through the Mono stack	

### THIN CLIENT PROTOCOLS

<b>A</b>	<b>Remote Redisplay Clients</b> Citrix ICA client RDP Client VMware View Client VNC Client XDMCP Client NX Client Graph-On Go Global Remote Execution – RSH, SSH, telnet	11.x RDP version 5 <sup>1</sup> 4.5.x     2.2.9
<b>B</b>	<b>Server Support</b> Windows Terminal Server Windows Citrix XenApp, XenDesktop, Presentation Server Red Hat Linux Ubuntu Linux  Fedora Linux VMware View	2003, 2008 XP, Vista, 7  4, 5, 6 All releases up to 10.10 All releases up to 14.0
<b>C</b>	<b>RDP Features</b> Automatic username and password Seamless RDP Numlock synchronisation Compression and encryption Selectable Bandwidth consumption Serial and Parallel Port forwarding Local disk forwarding Local printer forwarding Sound forwarding Smart Card device forwarding	
<b>D</b>	<b>Cloud Computing Support</b> Mozilla Firefox Google Chrome Adobe Reader Adobe Flash Player	3.6.10 6.0 9.3.4 10.1.85



1 There is no support in the Linux RDP client – rdesktop – for the enhanced features of RDP protocol versions 6 and 7.

#	Feature	Versions
	Sun Java Runtime Environment Embedded Multimedia Player Archives – ZIP, ARJ, GZIP, BZIP2, ACE, CAB <b>E Printing</b> Printer redirection in RDP and ICA LPD server for Linux/UNIX printing <b>F Others</b> Session sharing under ICA, VNC Hot desking – Session migration from one thin client to another under RDP, ICA, VNC Session view only support, for training and presentation purpose Remote session management through management interface. Ability to copy sessions from one thin client to multiple thin clients, remotely.	1.6.0 u20

**Conclusion**

As evident from the list above, Thinix is a comprehensive thin client firmware that provides for all the features expected from a modern thin client. In addition, Thinvent provides customisation services where specific applications, devices, protocols or network can be supported as per customer requirements. Please contact us at the below mentioned address to discuss your requirement in detail.

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Thinvent Technologies Pvt. Ltd.

[www.thinvent.in](http://www.thinvent.in)

S-90 · Uppal South End · Sohna Road · Gurgaon

+91 124 425 2359

[info@thinvent.in](mailto:info@thinvent.in)

