

# BlueCat Linux Target Support Guide for x86 Boards

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For x86 Boards

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# *Overview*

The BlueCat Linux Target Support Guide (TSG) for the x86 Boards describes the BlueCat Linux boot procedure and the configuration of the prebuilt BlueCat Linux kernel contained in the x86 TSP distribution. It summarizes the demo systems supported by the x86 TSP. Chapter 5 lists the supported device drivers. Chapter 6 provides an overview of the Automated Test System (ATS) and qualification of the x86 Boards.



This chapter describes the BlueCat Linux boot procedure for x86 boards.

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## Booting BlueCat Linux on an x86 Board from a Floppy

The following procedure boots BlueCat Linux on an x86 board from a floppy. Note that for a BlueCat Linux embedded system to boot successfully from a floppy disk, the floppy device driver must be configured in the kernel.

Install a BlueCat Linux embedded system to a floppy. Refer to “Booting BlueCat Linux from a Floppy Disk—Booting from a Floppy on an x86 Target” in the *BlueCat Linux User’s Guide* for a detailed description of the installation procedure.

- Insert the floppy disk into the floppy drive of the target.
- Make sure that the floppy is specified as the first boot device in the BIOS. The next reset will boot BlueCat Linux onto the target from the floppy.

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## Booting BlueCat Linux on an x86 Board from a Hard Disk

The following procedure boots BlueCat Linux on an x86 board from a hard disk. These instructions apply to an IDE disk, an SCSI disk, a CompactFlash device, a DiskOnChip device, or any other type of device that presents itself to the system as a hard disk. Note that for a BlueCat Linux embedded system to boot successfully from a hard disk, a hardware device driver for the disk must be configured in the kernel.

- Install a BlueCat Linux embedded system to a hard disk. Refer to “Booting BlueCat Linux from a Hard Disk—Booting from a Hard Disk on an x86 Target” in the *BlueCat Linux User’s Guide* for a detailed description of the installation procedure.
- In the BIOS, make sure that the hard disk is specified as the first boot device. The next reset will boot BlueCat Linux on the target from the hard disk.

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## Booting BlueCat Linux on an x86 Board from ROM/Flash Memory

The following procedure boots BlueCat Linux on an x86 board from ROM/Flash memory.

- Install a BlueCat Linux ROM Boot BIOS as Extension BIOS in the ROM/Flash memory. Install a BlueCat Linux embedded system into the ROM/Flash memory. The installation is carried out using external ROM/Flash memory programming tools.
- Make sure that support for the Extension BIOS is enabled (either in the BIOS or using on-board jumpers, depending on your target hardware). The next reset will boot BlueCat Linux on the target from ROM/Flash memory.

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## Booting BlueCat Linux on an x86 Board from a Network

The following procedure boots BlueCat Linux on an x86 board from a network:

- Install the OS Loader to a floppy, a hard disk, a CompactFlash, or ROM/Flash memory. The OS Loader is itself a BlueCat Linux embedded system, so all the installation instructions in the previous sections apply.
- Boot the OS Loader on the target.
- Boot a BlueCat Linux embedded system to an x86 board from a network using the OS Loader. Refer to “Booting BlueCat Linux from a Network or a Parallel Port—Booting BlueCat Linux from a Network or a Parallel Port Using OS Loader” in the *BlueCat Linux User’s Guide* for a detailed description of the network-based boot procedure.

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## Booting BlueCat Linux on an x86 Board from a Parallel Port

The following procedure boots BlueCat Linux on an x86 from a parallel port:

- Install the OS Loader on a floppy, a hard disk, or a CompactFlash. The OS Loader is itself a BlueCat Linux embedded system, so all the installation instructions in the previous sections apply.
- Boot the OS Loader on the target.
- Boot a BlueCat Linux embedded system to an x86 board from a parallel port using the OS Loader. A detailed description of the booting procedure is available in *BlueCat Linux User’s Guide*. Refer to the section entitled “Booting BlueCat Linux from a Network or a Parallel Port—Booting BlueCat Linux from a Network or a Parallel Port Using OS Loader” in the “Booting BlueCat Linux” chapter.



# *Default Kernel Configuration*

This chapter shows the configuration of the prebuilt BlueCat Linux kernel contained in the x86 TSP distribution. The following tables help you in finding information on specific topics.

**Table 3-1: BlueCat Linux Default Configuration for the x86 TSP Distribution**

Parameters	Table Number
Code Maturity Level Options	Table 3-2
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**Table 3-2: Code Maturity Level Options**

Option	Value	Description
CONFIG_EXPERIMENTAL	Y	Prompt for development and/or incomplete code/drivers

**Table 3-3: Processor Type and Features**

Option	Value	Description
CONFIG_M386=Y	Y	386 processor family
CONFIG_1GB=Y	Y	Maximum physical memory 1 GB
CONFIG_MATH_EMULATION	Y	Math emulation
CONFIG_MTRR	Y	MTRR (Memory Type Range Register) support
CONFIG_SMP	N	Symmetric multi-processing support

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**Table 3-4: Loadable Module Support**

Option	Value	Description
CONFIG_MODULES	Y	Enable loadable module support
CONFIG_MODVERSIONS	Y	Set version information on all symbols for modules
CONFIG_KMOD	Y	Kernel module loader

**Table 3-5: General Setup**

Option	Value	Description
CONFIG_NET	Y	Networking support
CONFIG_BLUECAT_LOADER	N	BlueCat OS Loader support
CONFIG_BLUECAT_IGNORE_PRINTK	N	BlueCat ignore printk
CONFIG_BLUECAT_SMALL_FOOTPRINT	N	BlueCat small memory footprint
CONFIG_BLUECAT_MEMSIZE	N	Memory usage statistics
CONFIG_PCI	Y	PCI support
CONFIG_PCI_GOBIO	Any	PCI access mode
CONFIG_PCI_QUIRKS	Y	PCI quirks
CONFIG_PCI_OPTIMIZE	N	PCI bridge optimization (exp)
CONFIG_PCI_OLD_PROC	Y	Backward-compatible /proc/pci
CONFIG_MCA	N	MCA support
CONFIG_VISWS	N	SGI Visual Workstation support
CONFIG_SYSVIPC	Y	System V IPC
CONFIG_BSD_PROCESS_ACCT	Y	BSD process accounting
CONFIG_SYSCTL	Y	sysctl support
CONFIG_BINFORMAT_AOUT	M	Kernel support for a.out binaries
CONFIG_BINFORMAT_ELF	Y	Kernel support for ELF binaries
CONFIG_BINFORMAT_MISC	M	Kernel support for MISC binaries
CONFIG_BINFORMAT_JAVA	M	Kernel support for JAVA binaries (obsolete)
CONFIG_PARPORT	Y	Parallel port support
CONFIG_PARPORT_PC	Y	PC-style hardware
CONFIG_PARPORT_OTHER	N	Support for hardware
CONFIG_APM	N	Advanced Power Management BIOS support

**Table 3-6: Memory Technology Devices (MTD)**

Option	Value	Description
CONFIG_MTD	N	Memory Technology Device (MTD) support

**Table 3-7: Modular Advanced Power Management (MAPM)**

Option	Value	Description
CONFIG_MAPM	N	Modular Advanced Power Management support

**Table 3-8: Plug and Play Support**

Option	Value	Description
CONFIG_PNP	Y	Plug and Play support
CONFIG_PNP_PARPORT	Y	Auto-probe for parallel devices

**Table 3-9: Block Devices**

Option	Value	Description
CONFIG_BLK_DEV_FD	Y	Normal PC floppy disk support
CONFIG_BLK_DEV_IDE	Y	Enhanced IDE/MFM/RLL disk/CD-ROM/tape/floppy support
CONFIG_BLK_DEV_HD_IDE	N	Use old disk-only driver on primary interface
CONFIG_BLK_DEV_IDEDISK	Y	Include IDE/ATA-2 DISK support
CONFIG_BLK_DEV_IDECD	M	Include IDE/ATAPI CDROM support
CONFIG_BLK_DEV_IDETAPE	M	Include IDE/ATAPI TAPE support
CONFIG_BLK_DEV_IDEFLOPPY	M	Include IDE/ATAPI FLOPPY support
CONFIG_BLK_DEV_IDESCSI	M	SCSI emulation support
CONFIG_BLK_DEV_CMD640	N	CMD640 chipset bugfix/support
CONFIG_BLK_DEV_RZ1000	N	RZ1000 chipset bugfix/support
CONFIG_BLK_DEV_IDEPCI	Y	Generic PCI IDE chipset support
CONFIG_BLK_DEV_IDEDMA	Y	Generic PCI bus-master DMA support

**Table 3-9: Block Devices (Continued)**

Option	Value	Description
CONFIG_BLK_DEV_OFFBOARD	N	Boot off-board chipset first support
CONFIG_IDEDMA_AUTO	N	USE DMA by default when available
CONFIG_BLK_DEV_OPTI621	N	OPTi 82C621 chipset enhanced support (exp)
CONFIG_BLKDEV_TRM290	N	Tekrom TRM290 chipset support (exp)
CONFIG_BLK_DEV_NS87415	N	NS87415 chipset support (exp)
CONFLOG_BLK_DEV_VIA82C586	N	VIA82C586 chipset support (exp)
CONFIG_BLK_DEV_CMD646	N	CMD646 chipset support (exp)
CONFIG_IDE_CHIPSETS	N	Other IDE chipset support
CONFIG_BLK_DEV_LOOP	Y	Loopback device support
CONFIG_BLK_DEV_NBD	M	Network block device support
CONFIG_BLK_DEV_MD	N	Multiple devices driver support
CONFIG_BLK_DEV_RAM	Y	RAM disk support
CONFIG_BLK_DEV_INITRD	N	Initial RAM disk (initrd) support
CONFIG_BLUECAT_RFS	Y	BlueCat RFS support
CONFIG_BLK_DEV_GENERIC_FLASH_DOC	N	M-Systems DiskOnChip
CONFIG_BLK_DEV_XD	M	XT hard disk support
CONFIG_BLK_DEV_DAC960	M	Mylex DAC960/DAC1 100 PCI RAID Controller support
CONFIG_PARIDE_PARPORT	Y	Parallel port IDE device support
CONFIG_PARIDE_PCD	M	Parallel port ATAPI CD-ROMs
CONFIG_PARIDE_PF	M	Parallel port ATAPI disks
CONFIG_PARIDE_PT	M	Parallel port ATAPI tapes
CONFIG_PARIDE_PG	M	Parallel port generic ATAPI devices
CONFIG_PARIDE_ATEN	M	ATEN EM-100 protocol
CONFIG_PARIDE_BPCK	M	Microsolution backpack protocol
CONFIG_PARIDE_COMM	M	DataStor Commuter protocol
CONFIG_PARIDE_DSTR	M	DataStor EP-2000 protocol
CONFIG_PARIDE_FIT2	M	FIT TD-2000 protocol
CONFIG_PARIDE_FIT3	M	FIT TD-3000 protocol

**Table 3-9: Block Devices (Continued)**

Option	Value	Description
CONFIG_PARIDE_EPAT	M	Shuttle EPAT/EPEZ protocol
CONFIG_PARIDE_EPIA	M	Shuttle EPIA protocol
CONFIG_PARIDE_FRIQ	M	Freecom IQ ASIC-2 protocol
CONFIG_PARIDE_FRPW	M	Freecom power protocol
CONFIG_PARIDE_KBIC	M	KingByte KBIC-951A/971A protocols
CONFIG_PARIDE_KTTI	M	KT PHd protocols
CONFIG_PARIDE_ON20	M	OnSpec 90c20 protocol
CONFIG_PARIDE_ON26	M	OnSpec 90c26 protocol
CONFIG_BLK_CPQ_DA	M	Compaq SMART2 support

**Table 3-10: Networking Options**

Option	Value	Description
CONFIG_PACKET	Y	Packet socket
CONFIG_NETLINK	Y	Kernel/User netlink socket
CONFIG_RTNETLINK	Y	Routing messages
CONFIG_NETLINK_DEV	Y	Netlink device emulation
CONFIG_FIREWALL	N	Network firewalls
CONFIG_FILTER	Y	Socket filtering
CONFIG_UNIX	Y	Unix domain sockets
CONFIG_INET	Y	TCP/IP networking
CONFIG_IP_MULTICAST	Y	IP: multicasting
CONFIG_IP_ADVANCED_ROUTER	N	IP: advanced router
CONFIG_IP_PNP	N	IP: kernel level autoconfiguration
CONFIG_IP_ROUTER	N	IP: optimize as router not host
CONFIG_NET_IPIP	M	IP: tunneling
CONFIG_NET_IPGRE	M	IP: GRE tunnels over IP
CONFIG_NET_IPGRE_BROADCAST	N	IP: broadcast GRE over IP
CONFIG_IP_MROUTE	N	IP: multicast routing
CONFIG_IP_ALIAS	N	IP: aliasing support
CONFIG_ARPD	N	IP: ARP daemon support (exp)
CONFIG_SYN_COOKIES	N	IP: TCP syncookie support (not enabled per default)
CONFIG_INET_RARP	M	IP: reverse ARP

**Table 3-10: Networking Options (Continued)**

Option	Value	Description
CONFIG_SKB_LARGE	N	IP: allow large windows (not recommended if <16 Mb of memory)
CONFIG_IPV6	N	The IPv6 protocol (exp)
CONFIG_IPX	M	The IPX protocol
CONFIG_IPX_INTERN	N	IPX: full internal IPX network
CONFIG_SPX	N	IPX: SPX networking (exp)
CONFIG_ATALK	M	Appletalk DDP
CONFIG_X25	N	CCITT X.25 Packet Laser (exp)
CONFIG_XLAPB	N	LAPB Data Link Driver (exp)
CONFIG_BRIDGE	N	Bridging (exp)
CONFIG_LLC	N	802.2 LLC (exp)
CONFIG_ECONET	N	Acorn Econet/AUN protocols (exp)
CONFIG_WAN_ROUTER	M	WAN router
CONFIG_NET_FASTROUTE	N	Fast switching (real help!)
CONFIG_NET_HW_FLOWCONTROL	N	Forwarding between high speed interfaces
CONFIG_CPU_IS_SLOW	N	CPU is too slow to handle full bandwidth

**Table 3-11: QoS and/or Fair Queuing**

Option	Value	Description
CONFIG_NET_SCHED	N	QoS and/or fair queuing

**Table 3-12: SCSI Support**

Option	Value	Description
CONFIG_SCSI	Y	SCSI support
CONFIG_BLK_DEV_SD	Y	SCSI disk support
CONFIG_BLK_DEV_ST	Y	SCSI tape support
CONFIG_BLK_DEV_SR	Y	SCSI CD-ROM support
CONFIG_BLK_DEV_SR_VENDOR	Y	Enable vendor-specific extensions (for SCSI CDROM)
CONFIG_CHR_DEV_SG	Y	SCSI generic support

**Table 3-12: SCSI Support**

Option	Value	Description
CONFIG_SCSI_MULTI_LUN	Y	Probe all LUNs on each SCSI devices
CONFIG_SCSI_CONSTANTS	N	Verbose SCSI error reporting (kernel size +=12K)
CONFIG_SCSI_LOGGING	N	SCSI logging facility

**Table 3-13: SCSI Low-Level Drivers**

Option	Value	Description
CONFIG_SCSI_7000FASST	M	7000FAST SCSI support
CONFIG_SCSI_ACARD	M	ACARD SCSI support
CONFIG_SCSI_AHA152X	Y	Adaptec AHA152X/2825 support
CONFIG_SCSI_AHA1542	Y	Adaptec AHA1542 support
CONFIG_SCSI_AHA1740	Y	Adaptec AHA1740 support
CONFIG_SCSI_AIC7XXX	Y	Adaptec AIC7xxx support
CONFIG_AIC7XXX_TCQ_ON_BY_DEFAULT	N	Enable Tagged Command Queuing (TCQ) by default
CONFIG_AIC7XXX_CMDS_PER_DEVICE	8	Maximum number of TCQ commands per device
CONFIG_AIC7XXX_PROC_STATS	Y	Collect statistics to report in /proc
CONFIG_AIC7XXX_RESET_DELAY	5	Delay in seconds after SCSI bus reset
CONFIG_SCSI_IPS	M	IBM ServeRAID support
CONFIG_SCSI_ADVANSYS	M	AdvanSys SCSI support
CONFIG_SCSI_IN2000	M	Always IN2000 SCSI support
CONFIG_SCSI_AM53C974	M	AM53/79C974 PCI SCSI support
CONFIG_SCSI_MEGARAID	M	AMI MegaRAID support
CONFIG_SCSI_BUSLOGIC	M	BusLogic SCSI support
CONFIG_SCSI_OMIT_FLASHPOINT	N	Omit FlashPoint support
CONFIG_SCSI_DTC3280	M	DTC3180/3280 SCSI support
CONFIG_SCSI_EATA	M	EATA ISA/EISA/PCI (DPT and generic EATA/DMA-compliant boards) support

**Table 3-13: SCSI Low-Level Drivers (Continued)**

Option	Value	Description
CONFIG SCSI_EATA_TAGGED_QUEUE	Y	Enable tagged command queueing
CONFIG SCSI_EATA_LINKED_COMMANDS	N	Enable elevator sorting
CONFIG SCSI_EATA_MAX_TAGS	16	Maximum number of queued commands
CONFIG SCSI_EATA_DMA	M	EATA-DMA [Obsolete] (DPT, NEC, AT&T, SNI, AST, Olivetti, Alphasatronix) support
CONFIG SCSI_EATA_PIO	M	EATA-PIO (old DPT PM2001, PM2023A) support
CONFIG SCSI_FUTURE_DOMAIN	Y	Future Domain 16xx SCSI/AHA-2920 support
CONFIG SCSI_GDTH	M	GDT SCSI Disk Array Controller support
CONFIG SCSI_GENERIC_NCR5380	Y	Generic NCR5380/53c400 SCSI support
CONFIG SCSI_GENERIC_NCR53C400	N	Enable NCR53c400 extensions
CONFIG SCSI_G_NCR538_PORT=Y	Port	NCR5380/53c400 mapping method (use Port for T130B) (PORT)
CONFIG SCSI_INITIO	M	Initio 9100U(W) support
CONFIG SCSI_INIA100	M	Initio INI-A100U2W support
CONFIG SCSI_PPA	M	IOMEGA parallel port (ppa – older drivers)
CONFIG SCSI_IMM	M	IOMEGA parallel port (imm – newer drivers)
CONFIG SCSI_IZIP_EPP16	N	ppa / imm option – Use slow (but safe) EPP-16
CONFIG SCSI_IZIP_SLOW_CTR	N	ppa / imm option – Assume slow parport control register
CONFIG SCSI_NCR53C406A	Y	NCR53c406a SCSI support
CONFIG SCSI_SYM53C416	Y	Symbios 53c416 SCSI support
CONFIG SCSI_NCR53C7xx	Y	NCR53c7, 8xx SCSI support
CONFIG SCSI_NCR53C7xx_sync	N	Always negotiate synchronous transfers

**Table 3-13: SCSI Low-Level Drivers (Continued)**

Option	Value	Description
CONFIG_SCSI_NCR53C7xx_FAST	Y	Allow FAST-SCSI [10 MHz]
CONFIG_SCSI_NCR53C7xx_DISCONNECT	Y	Allow DISCONNECT
CONFIG_SCSI_PAS16	M	PAS16 SCSI support
CONFIG_SCSI_PCI2000	N	PCI2000 support
CONFIG_SCSI_PCI2220I	N	PCI2220i support
CONFIG_SCSI_PSI240I	M	PSI240i support
CONFIG_SCSI_QLOGIC_FAS	M	Qlogic FAS SCSI support
CONFIG_SCSI_QLOGIC_ISP	M	Qlogic ISP SCSI support
CONFIG_SCSI_QLOGIC_FC	M	Qlogic ISP FC SCSI support
CONFIG_SCSI_SEAGATE	M	Seagate ST-02 and Future Domain TMC-8xx SCSI support
CONFIG_SCSI_DC390T	M	Tekram DC390(T) and Am53/79C974 SCSI support
CONFIG_SCSI_DC390T_NOGENSUPP	N	_omit_support for non-DC390 adapters
CONFIG_SCSI_T128	M	Trantor T128/T128F/T228 SCSI support
CONFIG_SCSI_U14_34F	M	UltraStor 14F/34F support
CONFIG_SCSI_U14_34F_LINKED_COMMANDS	N	Enable elevator sorting
CONFIG_SCSI_U14_34F_MAX_TAGS	8	Maximum number of queued commands
CONFIG_SCSI_ULTRASTOR	M	UltraStor SCSI support
CONFIG_SCSI_DEBUG	M	SCSI debugging host adapter

**Table 3-14: Network Device Support**

Option	Value	Description
CONFIG_NETDEVICES	Y	Network device support
CONFIG_DUMMY	M	Dummy net driver support
CONFIG_EQUALIZER	M	EQL (serial line load balancing) support
CONFIG_ETHERTAP	M	Ethertap network tap

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**Table 3-14: Network Device Support (Continued)**

Option	Value	Description
CONFIG_NET_SB1000	N	General Instruments Surfboard 1000
CONFIG_FDDI	N	FDDI driver support
CONFIG_HIPPI	N	HIPPI driver support (exp)
CONFIG_PLIP	M	PLIP (parallel port) support
CONFIG_PPP	M	PPP (point-to-point) support
CONFIG_SLIP	M	SLIP (serial line) support
CONFIG_SLIP_COMPRESSED	Y	CSLIP compressed headers
CONFIG_SLIP_SMART	Y	Keepalive and linefill
CONFIG_SLIP_MODE_SLIP6	Y	Six bit SLIP encapsulation
CONFIG_NET_RADIO	N	Wireless LAN (non-ham radio)
CONFIG_NET_FC	N	Fibre Channel driver support
CONFIG_RCPCI	M	Red Greek Hardware VPN (exp)
CONFIG_SHAPER	M	Traffic Shaper (exp)
CONFIG_SBN1	M	SBN1 12-xx support

**Table 3-15: ARCnet Drivers**

Option	Value	Description
CONFIG_ARCNET	N	ARCnet support

**Table 3-16: Ethernet (10 or 100 Mbit)**

Option	Value	Description
CONFIG_NET_ETHERNET	Y	Ethernet (10 or 100 Mbit)
CONFIG_NET_VENDOR_3COM	Y	3COM cards
CONFIG_EL1	M	3c501 support
CONFIG_EL2	M	3c503 support
CONFIG_ELPLUS	M	3c505 support
CONFIG_EL16	M	3c507 support
CONFIG_EL3	M	5c509/3c579 support
CONFIG_3C515	M	3c515 ISA Fast Etherlink
CONFIG_VORTEX	M	3c590/3c900 series (592/595/597) "Vortex/Boomerang" support

**Table 3-16: Ethernet (10 or 100 Mbit) (Continued)**

Option	Value	Description
CONFIG_LANCE	M	AMD LANCE and PCnet(AT 1500 and NE2100) support
CONFIG_NET_VENDOR_SMC	Y	Western Digital/SMC cards
CONFIG_WD80X3	M	WD80x3 support
CONFIG_ULTRA	M	SMC Ultra support
CONFIG_ULTRA32	M	SMC Ultra32 support
CONFIG_SMC9194	M	SMC 9194 support
CONFIG_NET_VENDOR_RACAL	Y	Racal-Interlan (micom) NI cards
CONFIG_NI5010	M	NI5010 support
CONFIG_NI52	M	NI5210 support
CONFIG_NI65	M	NI6510 support
CONFIG_RTL8139	M	RealTek 8129/8139 (not 8019/8029!) support
CONFIG_SIS900	M	Sis 900 PCI Fast Ethernet Adapter support
CONFIG_YELLOWFIN	M	Packet Engines Yellowfin Gigabit-NIC support
CONFIG_NET_ISA	Y	Other ISA cards
CONFIG_AT1700	M	AT1700 /1720 support (exp)
CONFIG_E2100	M	Cabletron E21xx support
CONFIG_DEPCA	M	DEPA, D1010x, DE200, DE201, DE202, DE422 support
CONFIG_EWRK3	M	EtherWORKS 3 (DE203, DE204, DE205) support
CONFIG_EEEXPRESS	M	EtherExpress 16 support
CONFIG_EXPRESS_PRO	M	EtherExpress Pro support
CONFIG_FMV18X	M	FMV-181/182/183/184 support
CONFIG_HPLAN_PLUS	M	HP PCLAN+(27247B and 2725A) support
CONFIG_HPLAN	M	HP PCLAN (27 245 and other 27xxx series) support
CONFIG_HP100	M	HP10/100VG PCLAN (ISA, EISA, PCI) support
CONFIG_ETH16I	M	ICL EtherTeam 16i/32 support
CONFIG_NE2000	M	NE2000/NE1000 support
CONFIG_SEQ8005	N	SEQ8005 support (exp)

**Table 3-16: Ethernet (10 or 100 Mbit) (Continued)**

Option	Value	Description
CONFIG_SK_G16	Y	SK-G16 support
CONFIG_NET_EISA	Y	EISA, VLB, PCI and on board controllers
CONFIG_PCNET32	M	AMD PCnet32 (VLB and PCI) support
CONFIG_ACEMIC	M	Alteon AceNIC/3Com 3C985/NetGear GA620 Gigabit support
CONFIG_AC3200	M	Ansel Communications EIA 3200 support (exp)
CONFIG_APRICOT	M	Apricot Xen-II on board Ethernet
CONFIG_CS89x0	M	CS89x0 support
CONFIG_DM9102	M	DM9102 PCI Fast Ethernet Adapter support (exp)
CONFIG_DE4X5	M	Generic DECchip & DIGITAL EtherWORKS PCI/EISA
CONFIG_DEC_ELCP	M	DECchip Tulip (dc21x4x) PCI support
CONFIG_DGRS	M	Digi Intl. RightSwitch SE-Xsupport
CONFIG_EEXPRESS_PRO100	M	Ether ExpressPro/100 support
CONFIG_LINE390	M	Mylex EISA LNE390A/B support (exp)
CONFIG_NET3210	M	Novell/Eagle/Microdyne NE3210 EISA support (exp)
CONFIG_NE2K_PCI	M	PCI NE2000 support
CONFIG_TLAN	M	TI ThunderLAN support
CONFIG_VIA_RHINE	M	VIA Rhine support
CONFIG_ES3210	M	Racal-Interlan EISA ES3210 support (exp)
CONFIG_EPIC100	M	SMC EtherPower II (exp)
CONFIG_ZNET	N	Zenith-Note support (exp)
CONFIG_NET_POCKET	N	Pocket and portable adaptors

**Table 3-17: Appletalk Devices**

Option	Value	Description
CONFIG_LTPC	N	Apple/Farallon LocalTalk PC support
CONFIG_COPS	N	COPS LocalTalk PC support
CONFIG_IPDDP	N	Appletalk-IP driver support

**Table 3-18: Token Ring Devices**

Option	Value	Description
CONFIG_TR	N	Token Ring driver support

**Table 3-19: Wan Interfaces**

Option	Value	Description
CONFIG_HOSTESS_SV11	N	Control Hostess SV-11 support
CONFIG_COSA	N	COSA/SRP sync serial boards support
CONFIG_SEALEVEL_4021	N	Sealevel Systems 4021 support
CONFIG_DLCI	N	Frame relay DLCI support
CONFIG_WAN_DRIVERS	N	WAN drivers

**Table 3-20: Amateur Radio Support**

Option	Value	Description
CONFIG_HAMRADIO	N	Amateur radio support

**Table 3-21: IrDA Subsystem**

Option	Value	Description
CONFIG_IRDA	N	IrDA subsystem support

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**Table 3-22: Old CD-ROM Drivers (not SCSI/IDE)**

Option	Value	Description
CONFIG_CD_NO_IDESCSI	Y	Support non-SCSI/IDE/ATARI CDROM drivers
CONFIG_AZTCD	M	Aztech/Orchid/Okano/Wearnes /TXC CDROM support
CONFIG_GSCD	M	Goldstar R420 CDROM support
CONFIG_SBPCD	M	Matsushita/Panasonic/Creative, Longshine, TEAC CDROM support
CONFIG_MCD	M	Mitsumi (standard) [no XA/Multisession] CDROM support
CONFIG_MCD_IRQ	11	MCD IRQ
CONFIG_MCD_BASE	300	MCD I/O base
CONFIG_MCDX	M	Mitsumi [XA/MultiSession] CDROM support
CONFIG_OPTCD	M	Optics Storage DOLPHINE 8000AT support
CONFIG_CM206	M	Phillips/LMS CM206 CDROM support
CONFIG_SJCD	M	Sanyo CDR-H94A CDROM support
CONFIG_ISP16_CDI	M	ISP16/MAD16/Mozart soft configurable CDROM interface support
CONFIG_CDU31A	M	Sony CDU31A/CDU33A CDROM support
CONFIG_CDU535	M	Sony CDU535 CDROM support

**Table 3-23: ISDN Subsystem**

Option	Value	Description
CONFIG_ISDN	N	ISDN support

**Table 3-24: Character Devices**

Option	Value	Description
CONFIG_VT	Y	Virtual terminal
CONFIG_VT_CONSOLE	Y	Support for console on virtual terminal
CONFIG_SERIAL	Y	Standard/generic (dumb) serial support
CONFIG_SERIAL_CONSOLE	Y	Support for console on serial port
CONFIG_SERIAL_EXTENDED	Y	Extended dumb serial driver options
CONFIG_SERIAL_MANY_PORTS	Y	Support more than 4 serial ports
CONFIG_SERIAL_SHARE_IRQ	Y	Support for sharing serial interrupts
CONFIG_SERIAL_DETECT_IRQ	N	Autodetect IRQ on standard ports (unsafe)
CONFIG_SERIAL_MULTIPORT	Y	Support special multiport boards
CONFIG_HUB16	N	Support the Bell Technologies HUB6 card
CONFIG_SERIAL_NONSTANDARD	Y	Non-standard serial port support
CONFIG_ROCKETPORT	M	Control Rocketport support
CONFIG_DIGIEPCA	M	Digiboard Intelligent Async Support
CONFIG_CYCLADES	M	Cyclades sync mux support
CONFIG_CYZ_INTR	N	Cyclades-Z interrupt mode operation (exp)
CONFIG_STALDRV	Y	Stallion multiport serial support
CONFIG_STALLION	M	Stallion EasyIO or EC8/32 support
CONFIG_ISTALLION	M	Stallion EC8/64, ONboard, Brumby support
CONFIG_RISCOM8	M	SDL RISCom/8 card support
CONFIG_COMPUTONE	M	Computone Intelliprt Plus serial support
CONFIG_SPECIALIX	M	Specialix IO8+ card support
CONFIG_SPECIALX_RISCTS	Y	Specialix DTR/RTS pin in RTS
CONFIG_SX	M	Specialix SX (ans SI) card support

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**Table 3-24: Character Devices (Continued)**

Option	Value	Description
CONFIG_ESPSERIAL	M	Hayes ESP serial port support
CONFIG_ISI	M	Multi-Tech multiport card support
CONFIG_SYNCLINK	M	Microgate SyncLink card support
CONFIG_N_HDLC	M	HDLC line discipline support
CONFIG_UNIX98_PTYS	Y	Unix98 PTY support
CONFIG_UNIX98_PTY_COUNT	256	Maximum number of Unix98 PTYs in use (0-2048)
CONFIG_PRINTER	M	Parallel printer support
CONFIG_PRINTER_READBACK	N	Support IEEE1284 status readback
CONFIG_MOUSE	Y	Mouse support (not serial mice)
CONFIG_QIC02_TAPE	N	QIC-02 tape support
CONFIG_WATCHDOG	N	Watchdog Timer support
CONFIG_NVRAM	M	/dev/nvram support
CONFIG_RTC	Y	Enhanced Real-Time Clock support
CONFIG_DTLK	M	Double Talk PC internal speech card support

**Table 3-25: Mice**

Option	Value	Description
CONFIG_ATIXL_BUSMOUSE	M	ATIXL busmouse support
CONFIG_BUSMOUSE	M	Logitech busmouse support
CONFIG_MS_BUSMOUSE	M	Microsoft busmouse support
CONFIG_PSMOUSE	Y	PS/2 mouse (aka "auxiliary device") support
CONFIG_82C710_MOUSE	M	C&T 82C710 mouse port support (as on TI Travlmate)
CONFIG_PC110_PAD	M	PC110 digitizer pad support

**Table 3-26: Video for Linux**

Option	Value	Description
CONFIG_VIDEO_DEV	N	Video for Linux

**Table 3-27: Joystick Support**

Option	Value	Description
CONFIG_JOYSTICK	N	Joystick support

**Table 3-28: Floppy Tape Device Driver, Ftape**

Option	Value	Description
CONFIG_FTAPE	M	Ftape (QIC-80/Travan) support
CONFIG_ZTAPE	M	Zftape, the VFS interface
CONFIG_ZFT_DFLT_BLK_SZ	10240	Default block size
CONFIG_FT_NR_BUFFERS	3	Number of ftape buffers (exp)
CONFIG_FT_PROC_FS	N	Enable procs status report (+2kb)
CONFIG_FT_NORMAL_DEBUG	Normal	Debugging output
CONFIG_FT_FULL_DEBUG	Standard	Floppy tape controller
CONFIG_FT_FDC_THR	8	Default FIFO threshold (exp)
CONFIG_FT_FDC_MAX_RATE	2000	Maximum data rate to use (exp)
CONFIG_FT_ALPHA_CLOCK	0	CPU clock frequency of your DEC Alpha

**Table 3-29: Filesystems**

Option	Value	Description
CONFIG_QUOTA	N	Quota support
CONFIG_AUTOFS_FS	M	Kernel automounter support
CONFIG_ADFS_FS	N	ADFS filesystem support (read only) (exp)
CONFIG_AFFS_FS	N	Amiga FFS filesystem support
CONFIG_HFS_FS	N	Apple Macintosh filesystem support (exp)
CONFIG_FAT_FS	N	DOS FAT filesystem support
CONFIG_MSDFS_FS	N	MSDOS filesystem support
CONFIG_UMSDOS_FS	N	UMSDOS: Unix-like filesystem on top of standard MSDOS filesystem
CONFIG_VFAT_FS	N	VFAT (Windows-95) filesystem support

**Table 3-29: Filesystems (Continued)**

Option	Value	Description
CONFIG_ISO9660_FS	M	ISO 9660 CDROM filesystem support
CONFIG_JOLIET	N	Microsoft Joliet CDROM extensions
CONFIG_MINIX_FS	N	Minix fs support
CONFIG_NTFS_FS	N	NTFS filesystem support (read only)
CONFIG_HPFS_FS	N	OS/2 HPFS filesystem support (read only)
CONFIG_PROC_FS	Y	/proc filesystem support
CONFIG_DEVPTS_FS	Y	/dev/pts filesystem for Unix98 PTYs
CONFIG_QNX4FS_FS	N	QNX filesystem support (exp)
CONFIG_ROMFS_FS	M	ROM filesystem support
CONFIG_EXT2_FS	Y	Second extended fs support
CONFIG_SYSV_FS	N	System V and Coherent filesystem support
CONFIG_UFS_FS	N	UFS filesystem support
CONFIG_UFS_FS_WRITE	N	UFS filesystem write support (exp)
CONFIG_EFS_FS	N	SGI EFS filesystem support (read only) (exp)

**Table 3-30: Network Filesystems**

Option	Value	Description
CONFIG_CODA_FS	N	Coda filesystem support (advanced network fs)
CONFIG_NFS_FS	M	NFS filesystem support
CONFIG_NFSD	M	NFS server support
CONFIG_NFSD_SUN	Y	Emulate SUN NFS support
CONFIG_SMB_FS	N	SMB filesystem support (to mount WfW shares, etc.)
CONFIG_NCP_FS	M	NCP filesystem support (to mount NetWare volumes)
CONFIG_NCPFS_PACKET_SIGNING	Y	Packet signatures

**Table 3-30: Network Filesystems (Continued)**

Option	Value	Description
CONFIG_NCPFS_IOCTL_LOCKING	Y	Proprietary file locking
CONFIG_NCPFS_STRONG	Y	Clear remove/delete inhibit when needed
CONFIG_NCPFS_NFS_NS	Y	Use NFS namespace if available
CONFIG_NCPFS_OS2_NS	Y	Use LONG (OS/2) namespace if available
CONFIG_NCPFS_SMALLDOS	Y	Lowercase DOS filenames
CONFIG_NCPFS_MOUNT_SUBDIR	Y	Allow mounting of volume subdirectories
CONFIG_NCPFS_NLS	Y	Use Native Language Support
CONFIG_NCPFS_EXTRAS	Y	Enable symbolic links and execute flags

**Table 3-31: Partition Types**

Option	Value	Description
CONFIG_BSD_DISKLABEL	N	BSD disklabel (BSD partition tables) support
CONFIG_MAC_PARTITION	N	Macintosh partition map support
CONFIG_SMD_DISKLABEL	N	SMD disklabel (Sun partition tables) support
CONFIG_SOLARIS_x86_PARTITION	N	Solaris (x86) partition table support
CONFIG_UNIXWARE_DISKLABEL	N	Unixware slices support (exp)

**Table 3-32: Native Language Support**

Option	Value	Description
CONFIG_NLS_CODEPAGE_437	M	Codepage 437 (United States, Canada)
CONFIG_NLS_CODEPAGE_737	M	Codepage 737 (Greek)
CONFIG_NLS_CODEPAGE_775	M	Codepage 775 (Baltic Rim)
CONFIG_NLS_CODEPAGE_850	M	Codepage 850 (Europe)

**Table 3-32: Native Language Support (Continued)**

Option	Value	Description
CONFIG_NLS_CODEPAGE_852	M	Codepage 852 (Central/Eastern Europe)
CONFIG_NLS_CODEPAGE_855	M	Codepage 855 (Cyrillic)
CONFIG_NLS_CODEPAGE_857	M	Codepage 857 (Turkish)
CONFIG_NLS_CODEPAGE_860	M	Codepage 860 (Portugese)
CONFIG_NLS_CODEPAGE_861	M	Codepage 861 (Icelandic)
CONFIG_NLS_CODEPAGE_862	M	Codepage 862 (Hebrew)
CONFIG_NLS_CODEPAGE_863	M	Codepage 863 (Canadian French)
CONFIG_NLS_CODEPAGE_864	M	Codepage 864 (Arabic)
CONFIG_NLS_CODEPAGE_865	M	Codepage 865 (Norwegian, Danish)
CONFIG_NLS_CODEPAGE_866	M	Codepage 866 (Cyrillic/Russian)
CONFIG_NLS_CODEPAGE_869	M	Codepage 869 (Greek)
CONFIG_NLS_CODEPAGE_874	M	Codepage 874 (Thai)
CONFIG_NLS_ISO8859_1	M	NLS ISO 8859-1 (Latin: Western European Languages)
CONFIG_NLS_ISO8859_2	M	NLS ISO 8859-2 (Latin-2: Slavic/Central European Languages)
CONFIG_NLS_ISO8859_3	M	NLS ISO 8859-3 (Latin-3: Esperanto, Galician, Maltese, Turkish)
CONFIG_NLS_ISO8859_4	M	NLS ISO 8859-4 (Latin-4: Estonian, Latvian, Lithuanian)
CONFIG_NLS_ISO8859_5	M	NLS ISO 8859-5 (Cyrillic)
CONFIG_NLS_ISO8859_6	M	NLS ISO 8859-6 (Arabic)
CONFIG_NLS_ISO8859_7	M	NLS ISO 8859-7 (Modern Greek)
CONFIG_NLS_ISO8859_8	M	NLS ISO 8859-8 (Hebrew)

**Table 3-32: Native Language Support (Continued)**

Option	Value	Description
CONFIG_NLS_ISO8859_9	M	NLS ISO 8859-9 (Latin 5: Turkish)
CONFIG_NLS_ISO8859_14	M	NLS ISO 8859-14 (Latin 8: Celtic)
CONFIG_NLS_ISO8859_15	M	NLS ISO 8859-15 (Latin 9: Western European Languages with Euro)
CONFIG_NLS_KOI8_R	M	NLS KOI8-R (Russian)

**Table 3-33: Console Drivers**

Option	Value	Description
CONFIG_VGA_CONSOLE	Y	VGA text console
CONFIG_VIDEO_SELECT	Y	Video mode selection support
CONFIG_MDA_CONSOLE	M	MDA text console (dual-headed) (exp)
CONFIG_FB	Y	Support for frame buffer devices (exp)
CONFIG_FB_PM2	N	Permedia2 support (exp)
CONFIG_FB_VESA	Y	VESA VGA graphic console
CONFIG_FB_VGA16	N	VGA 16-color graphics console
CONFIG_FB_MATROX	M	Matrox acceleration
CONFIG_FB_MATROX_MILLENIUM	Y	Millennium I/II support
CONFIG_FB_MATROX_MYSTIQUE	Y	Mystique support
CONFIG_FB_MATROX_G100	Y	G100/G200 support
CONFIG_FB_MATROX_MULTIHREAD	Y	Multithread support
CONFIG_FB_ATY	N	ATI Mach64 display support
CONFIG_FB_VIRTUAL	N	Virtual Frame Buffer support (only for testing)
CONFIG_FBCOM_ADVANCED	N	Advanced low level driver options
CONFIG_FBCOM_FONTWIDTH8_ONLY	N	Support only 8 pixels wide fonts
CONFIG_FBCOM_FONTS	N	Select compiled-in fonts

**Table 3-34: Sound**

Option	Value	Description
CONFIG_SOUND	M	Sound card support
CONFIG_SOUND_CMPCI	M	Support for C-Media PCI audio chips (exp)
CONFIG_SOUND_CMPCI_FM	N	Enable legacy FM
CONFIG_SOUND_CMPCI_MIDI	Y	Enable legacy MPV-401
CONFIG_SOUND_ES1370	M	Ensoniq AudioPCI (ES1370)
CONFIG_SOUND_ES1371	M	Creative Ensoniq AudioPCI 97 (ES1371)
CONFIG_SOUND_ESSSOLO1	M	ESS Solo1 (exp)
CONFIG_SOUND_SONICVIBES	M	S3 SonicVibes
CONFIG_SOUND_MSNDCLAS	M	Support for Turtle Beach MultiSound Classic, Tahiti, Monterey
CONFIG_MSNDCLAS_INIT_FILE	/etc/sound/msndinit.bin	Full pathname of MSNDINIT.BIN firmware file
CONFIG_MSNDCLAS_PERM_FILE	/etc/sound/msndperm.bin	Full pathname of MSNDPERM>BIN firmware file
CONFIG_SOUND_MSNDPIN	M	Support for Turtle MultiSound Pinnacle, Fiji
CONFIG_MSNDPIN_INIT_FILE	/etc/sound/pndspini.bin	Full pathname of PNDSPINI.BIN firmware file
CONFIG_MSNDPIN_PERM_FILE	/etc/sound/pndspperm.bin	Full pathname of PNDSPERM.BIN firmware file
CONFIG_SOUND_OSS	M	OSS sound modules
CONFIG_SOUND_PAS	M	ProAudioSpectrum 16 support
CONFIG_SOUND_SB	M	100% Sound Blaster compatibles (SB16/32/64, ESS, Jazz16) support

**Table 3-34: Sound (Continued)**

Option	Value	Description
CONFIG_SOUND_ADLIB	M	Generic OPL2.OPL3 FM synthesizer support
CONFIG_SOUND_GUS	M	Gravis Ultrasound support
CONFIG_GUS16	Y	16 bit samling option of GUS (_NOT_GUS MAX)
CONFIG_GUSMAX	Y	GUS MAX support
CONFIG_SOUND_MPU401	M	MPU-401 support (NOT for SB16)
CONFIG_SOUND_PSS	M	PSS (AD1848, ADSP-2125, ESC614) support
CONFIG_PSS_MIXER	N	Enable PSS mixer (Beethoven ADSP-16 and other compatible)
CONFIG_SOUND_MSS	M	Microsoft Sound System support
CONFIG_SOUND_SSCAPE	M	Ensoniq SoundScape support
CONFIG_SOUND_TRIX	M	MediaTrix AudioTrix Pro support
CONFIG_SOUND_VIA82CXXX	M	VIA 82C686 Audio Codec
CONFIG_SOUND_MAD16	M	Support for OPTi MAD16 and/or Mozart based cards
CONFIG_MAD16_OLDCARD	Y	Support MIDI in older MAD16 based cards (requires SB)
CONFIG_SOUND_WAVEFRONT	M	Full support for Turtle Beach WaveFront (Trapez Plus, Trapez, Maui) synth/soundcards
CONFIG_SOUND_CS4232	M	Support for Crystal CS 4232(pnP) cards
CONFIG_SOUND_OPL3SA2	M	Support for Yamaha OPL3-SA2, SA3, and SAx based PnP cards
CONFIG_SOUND_MAUI	M	Limited support for Turtle Beach Wave Front (Maui, Trapez) synthesizers
CONFIG_SOUND_SGALAXY	M	Support for Aztech Sound Galaxy (non-PnP) cards
CONFIG_SOUND_AD1816	M	Support for AD1816(A) based cards (exp)
CONFIG_SOUND_OPL3SA1	M	Yamaha OPL3-SA1 audio controller
CONFIG_SOUND_SOFTOSS	M	SoftOSS software wave table engine

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**Table 3-34: Sound (Continued)**

Option	Value	Description
CONFIG_SOUND_YM3812	M	FM synthesizer (YM3812/OPL-3) support
CONFIG_SOUND_VMIDI	M	Loopback MIDI device support
CONFIG_SOUND_UART6850	M	6850 UART support
CONFIG_SOUND_NM256	M	NM256AV/NM256ZX audio support

**Table 3-35: Additional Low-Level Sound Drivers**

Option	Value	Description
CONFIG_LOWLEVEL_SOUND	Y	Additional low-level sound driver
CONFIG_ACI_MIXER	M	ACI mixer (miroPCM12)
CONFIG_AWE32_SYNTH	M	AWE32 synth
CONFIG_AEDSP16	M	Gallant Audio Cards (SC-6000 and SC-6600 based)
CONFIG_AEDSP16_BASE	220	I/O base for Audio Excel DSP 16 220 or 240
CONFIG_MPU_BASE	330	I/O base for MPU401 Check from manual of the card
CONFIG_SC6600	Y	SC 6600-based audio cards (new Audio Excel DSP 16)
CONFIG_SC6600_JOY	Y	Activate SC-6600 Joystick Interface
CONFIG_SC6600_CDROM	4	SC-6600 CDROM Interface (4=None, 3=IDE, 1= Panasonic, 0=?Sony?)
CONFIG_SC6600_CDROMBASE	0	SC-6600 CDROM Interface I/O Address
CONFIG_AEDSP16_SBPRO	Y	Audio Excel DSP 16 (SBPro emulation)
CONFIG_AEDSP16_BASE	220	I/O base for Audio Excel DSP 16 220, 240
CONFIG_AEDSP16_SB_IRQ	5	Audio Excel DSP 16 IRQ 5, 7, 9, 10, 11

**Table 3-35: Additional Low-Level Sound Drivers**

Option	Value	Description
CONFIG_AEDSP16_SB_DMA	0	Audio Excel DSP 16 DMA 0, 1 or 3
CONFIG_AEDSP16_MPU401	Y	Audio Excel DSP 16 (MPU401 emulation)
CONFIG_AEDSP16_MPU_IRQ	5	MPU401 IRQ for Audio Excel DSP 16 5, 7, 9, 10 or 0 (disable)

**Table 3-36: Kernel Hacking**

Option	Value	Description
CONFIG_MAGIC_SYSRQ	Y	Magic SysRq key
CONFIG_BLUECAT_KDBG	N	Include skdb kernel debugger

**Table 3-37: Lynx Messenger Support**

Option	Value	Description
CONFIG_BLUECAT_IOPMAN	N	Enable Lynx IOP Manager support

# *Supported Demo Systems*

The following table shows the demo systems supported by the x86 TSP. The boot devices supported by the prebuilt demo systems included in your distribution are listed.

Table 4-1: Demo Systems Supported by the x86 TSP

Demo	Boot Devices Supported by Default	ROM Requirements	RAM Requirements
caffeine	Flash Network using the OS Loader	2425 KB	16500 KB
default	Flash IDE SCSI Network using the OS Loader	1512 KB	7500 KB
disk	Floppy Flash IDE SCSI Network using the OS Loader	1365 KB	8000 KB
diskboot	Floppy Flash IDE SCSI, DiskOnChip Network using the OS Loader	1216 KB	3500 KB
ffs	Floppy Flash Network using the OS Loader	1042 KB	8000 KB

Table 4-1: Demo Systems Supported by the x86 TSP (Continued)

Demo	Boot Devices Supported by Default	ROM Requirements	RAM Requirements
ftp	Flash Network using the OS Loader	1518 KB	9000 KB
gdb	Floppy Flash Network using the OS Loader	1091 KB	6500 KB
gnutar	Floppy Flash IDE SCSI Network using the OS Loader	1205 KB	7000 KB
hello	Floppy Flash Network using the OS Loader	361 KB	3500 KB
install	Floppy Flash IDE SCSI DiskOnChip Network using the OS Loader	1436 KB	8000 KB
kdbg	Floppy, Flash, Network using the OS Loader	1056 KB	7000 KB
loadkeys	Floppy Flash Network using osloader	1314 KB	7500 KB
mapm	Floppy Flash Network using the OS Loader	978 KB	6500 KB
memsize	Floppy Flash Network using the OS Loader	1056 KB	6500 KB
modular	Floppy Flash Network using the OS Loader	1052 KB	7000 KB

Table 4-1: Demo Systems Supported by the x86 TSP (Continued)

Demo	Boot Devices Supported by Default	ROM Requirements	RAM Requirements
msng_exmpl	Floppy Flash Network using the OS Loader	1027 KB	7500 KB
multi_user	Flash Network using the OS Loader	1758 KB	9500 KB
multi_user_net	Flash Network using the OS Loader	2181 KB	11500 KB
nfsroot	Floppy Flash Network using the OS Loader	412 KB	3500 KB
osloader	Floppy Flash DiskOnChip IDE SCSI	584 KB	3000 KB
ping	Floppy Flash Network using the OS Loader	1105 KB	7000 KB
rcp	Floppy Flash Network using the OS Loader	1247 KB	7500 KB
rlogin	Floppy Flash Network using the OS Loader	1374 KB	8000 KB
rootfs	Floppy Flash IDE SCSI Network using the OS Loader	376 KB	3000 KB
shell	Floppy Flash Network using the OS Loader	1096 KB	7000 KB
tcl	Floppy Flash Network using the OS Loader	1205 KB	7500 KB

**Table 4-1: Demo Systems Supported by the x86 TSP (Continued)**

<b>Demo</b>	<b>Boot Devices Supported by Default</b>	<b>ROM Requirements</b>	<b>RAM Requirements</b>
tcpdump	Floppy Flash Network using the OS Loader	1291 KB	7500 KB
tutorial	Floppy Flash Network using the OS Loader	1120 KB	7000 KB
xclock	Flash Network using the OS Loader	2548 KB	12500 KB
xdemo1	Flash Network using the OS Loader	3024 KB	14500 KB
xdemo2	Flash Network using the OS Loader	3585 KB	17500 KB

# Supported Device Drivers

The following table shows the device drivers supported by the x86 TSP.

Table 5-1: The Device Drivers Supported by the x86 TS

Hardware Device	Device Drivers	Location in Source Tree	Kernel Configuration Options	Notes
<b>Ethernet Controllers</b> PCI, PCMCIA and ISA 10/100 Mbit Ethernet Adapters	Depends on the card installed	drivers/net/*.c	Depends on the card installed	See \$(BLUECAT_PREFIX)/usr/doc/HOWTO/Hardware-HOWTO for the list of Ethernet cards supported by Linux. Tested adapters: - ISA NE2000 compatible - 3com509 - SMC EtherPowerII - SMC EzCard - Am79C972 PCnet - SMC EtherPower - DECchip Tulip

Table 5-1: The Device Drivers Supported by the x86 TS (Continued)

Hardware Device	Device Drivers	Location in Source Tree	Kernel Configuration Options	Notes
<b>IDE/EIDE Controllers</b> Up to two IDE/EIDE interfaces and up to four hard disks, CD-ROM drives or CompactFlash disks.	Generic IDE drivers	drivers/block/ide-*.c	CONFIG_BLK_DEV_IDE	See \$(BLUECAT_PREFIX) / usr/doc/HOWTO/Hardware-HOWTO for the list of IDE/EIDE interfaces supported by Linux.
<b>SCSI Controllers</b> PCI, ISA, and on-board SCSI controllers.	SCSI drivers	drivers/block/scsi/*.c	CONFIG_SCSI CONFIG_BLK_DEV_SD CONFIG_BLK_DEV_SR CONFIG_SCSI_*	See \$(BLUECAT_PREFIX) / usr/doc/HOWTO/Hardware-HOWTO for the list of SCSI adapters supported by Linux. Tested adapters: - AHA1542 - AHA2940 - AIC7860 - DC-310
<b>DiskOnChip 2000/Millennium</b>	DiskOnChip driver	drivers/block/flash_doc/*.c	CONFIG_BLK_DEV_GENERIC_FLASH_DOC	The driver is not included in BlueCat Linux distribution. You can download the driver from the M-Systems website and install it according to <i>BlueCat Linux User's Guide</i> and documentation that comes with the driver and DiskOnChip hardware.
<b>FDD Controller</b>	Standard PC floppy driver	drivers/block/floppy.c	CONFIG_BLK_DEV_FD	

Table 5-1: The Device Drivers Supported by the x86 TS (Continued)

Hardware Device	Device Drivers	Location in Source Tree	Kernel Configuration Options	Notes
<b>Keyboard/ Mouse</b> PS/2	PC keyboard driver	drivers/char/ pc_keyb.c	CONFIG_ PSMOUSE	Support for keyboard is always present
<b>Serial Ports</b> 8250, 16450, 16550, and 16550A UARTs.	Standard serial driver	drivers/char/ serial.c	CONFIG_SERIAL	
<b>Video</b> PCI, AGP and on-board video controllers	Standard PC video console driver	drivers/video/ vgacon.c	CONFIG_VGA_ CONSOLE	Graphic modes supported by X Windows. See \$(BLUECAT_PREFIX)/usr/doc/HOWTO/Hardware-HOWTO for the list of video cards supported by Linux.
<b>USB</b>	USB drivers	drivers/usb/*.c	CONFIG_USB	Driver not tested
<b>Parallel Ports</b>	Parallel port driver	drivers/ misc/*.c	CONFIG_ PARPORT	Driver not tested
<b>PCMCIA Controllers</b> PCI, Cardbus and ISA PCMCIA Adapters	PCMCIA Card Services	pcmcia-cs- 3.0.14/		Driver not tested



# *Target Testing and Qualification*

This chapter lists the results of the Automated Test System testing (ATS) and the qualification of BlueCat Linux for x86 target boards. For a detailed description of the BlueCat Linux Test Suite and ATS refer to the *BlueCat Linux User's Guide*.

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## ATS Suites Test Results

All supported ATS Suites run on x86 target boards. Test results are as shown in Chapter 5 of the *BlueCat Linux User's Guide*.

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## Real-Time Performance

This section summarizes the results of the BlueCat Linux real-time performance test suite, which simulates a real-world system environment and measures the Interrupt Response and Task Response times.

The following three tables summarize the actual results of real-time performance measurement for x86 targets. The results were obtained on the following hardware system:

- CPU – AMD5x86, at 133 MHz
- L1 Cache – None
- L2 Cache – None
- RAM – 32 MB
- Disk – IDE
- Ethernet – NE2000

**Table 6-1: Real-Time Performance – Configuration 1**

<b>Configuration</b> schedule policy: fifo schedule priority: 99 background load: network (ping -f)	
<b>Interrupt Response:</b> Best Measured: Average: Worst Measured:	18 us 34 us 309 us
<b>Task Response:</b> Best Measured: Average: Worst Measured:	110 us 443 us 152298 us

**Table 6-2: Real-Time Performance – Configuration 2**

<b>Configuration</b> schedule policy: fifo schedule priority: 99 background load: disk (mkfs)	
<b>Interrupt Response:</b> Best Measured: Average: Worst Measured:	2 us 321 us 42985 us
<b>Task Response:</b> Best Measured: Average: Worst Measured:	77 us 59770 us 2913386 us

**Table 6-3: Real-Time Performance – Configuration 3**

<b>Configuration</b> schedule policy: fifo schedule priority: 99 background load: none	
<b>Interrupt Response:</b> Best Measured: Average: Worst Measured:	 13 us 15 us 86 us
<b>Task Response:</b> Best Measured: Average: Worst Measured:	 59 us 96 us 10004 us

