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## **BorderWare Products Hardware Support Guide**

**July 2003**

## Important Information for Administrators

This document includes a list of hardware devices that are supported by BorderWare Firewall Server Version 7.0, the Mail Gateway Version 2.0.3, and the Document Gateway Version 3.0. This document should be consulted prior to installing the Firewall Server software to ensure hardware compatibility.

**NOTE:** Please make sure that you have the latest version of this document because it is **SUBJECT TO CHANGE**. Please check <http://dgsupport.borderware.com> for the latest document if there is any doubt.

BorderWare supplies the **BorderWare Security Servers** as suitable platforms for the Firewall Server, rack-mountable server systems specifically designed for the Firewall Server, and delivers high performance and reliability in a cost-effective package. The Firewall Server is pre-installed on the Security Servers, which comes in a choice of specifications to suit all needs.

BorderWare Firewall Server also runs with great performance on **Sun LX50** series appliances. For more information on the BorderWare Security Servers appliances and Sun LX50 appliances please go to <http://www.borderware.com> for most updated information.

The list includes fixed disk controllers, CPUs, hard disks, Ethernet cards, Token Ring adapters and UPS devices for which there is a compatible device driver. Since the list contains many devices it is possible for incompatibilities to arise between devices. Not all devices will function in every possible configuration or in every computer system in which they are installed.

For help with the installation of your BorderWare product, please contact your local BorderWare reseller.

## Hardware Compatibility List

<b>Fixed Disk Controllers</b>	<p>IDE Controllers ATA Controllers including ATA100</p> <p><b>Compaq</b> Intelligent Disk Array Controllers: IDA, IDA-2, IAES, SMART, SMART-2/E, Smart-2/P, SMART-2SL, Integrated Array, Smart Array 3100ES/3200/221/4200/4250ES</p> <p><b>Promise</b> Ultra/Fasttrak-33 Ultra/Fasttrak-66 Ultra/Fasttrak-100 Ultra/Fasttrak-100 TX2/TX4 Ultra/Fasttrak-133 TX2/TX2000</p> <p><b>Adaptec</b> 1535 ISA SCSI controllers <b>Adaptec</b> 154x series ISA SCSI controllers <b>Adaptec</b> 164x series MCA SCSI controllers <b>Adaptec</b> 174x series EISA SCSI controller in standard and enhanced mode <sup>1</sup> <b>Adaptec</b> 274X/284X/2920C/2930U2/294x/2950/3940/3950 (Narrow/Wide/Twin) series EISA/VLB/PCI SCSI controllers <b>Adaptec</b> AIC7850, AIC7860, AIC7880, AIC789x <sup>2</sup>, on-board SCSI controllers <b>Adaptec</b> 1510 series ISA SCSI controllers (not for bootable devices) <b>Adaptec</b> 152x series ISA SCSI controllers <b>Adaptec</b> AIC-6260 and AIC-6360 based boards, which includes the AHA-152x and SoundBlaster SCSI cards</p>
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	<p><b>Adaptec</b> 1400, 2100S, 3200S, and 3400S SCSI RAID controllers</p> <p><b>AdvanSys</b> SCSI controllers (all models)</p> <p><b>BusLogic</b> MultiMaster controllers:  <b>BusLogic</b> MultiMaster "W" Series Host Adapters: BT-948, BT-958, BT-958D  <b>BusLogic</b> MultiMaster "C" Series Host Adapters: BT-946C, BT-956C, BT-956CD, BT-445C, BT-747C, BT-757C, BT-757CD, BT-545C, BT-540CF  <b>BusLogic</b> MultiMaster "S" Series Host Adapters: BT-445S, BT-747S, BT-747D, BT-757S, BT-757D, BT-545S, BT-542D, BT-742A, BT-542B  <b>BusLogic</b> MultiMaster "A" Series Host Adapters: BT-742A, BT-542B</p> <p><b>AMI</b> FastDisk controllers that are true <b>BusLogic</b> MultiMaster clones are also supported.</p> <p>The <b>Buslogic/Bustek</b> BT-640 and <b>Storage Dimensions</b> SDC3211B and SDC3211F Microchannel (MCA) bus adapters are also supported.</p> <p><b>SymBios</b> (formerly <b>NCR</b>) 53C810, 53C810a, 53C815, 53C820, 53C825a, 53C860, 53C875, 53C875j, 53C885, 53C895 and 53C896 PCI SCSI controllers on the following motherboards:  <b>ASUS</b> SC-200  <b>Data Technology</b> DTC3130 (all variants)  <b>Diamond</b> FirePort (all)  <b>NCR</b> cards (all)  <b>Symbios</b> cards (all)  <b>Tekram</b> DC390W, 390U and 390F  <b>Tyan</b> S1365</p> <p><b>Qlogic</b> 1020, 1040, 1040B, 1080 and 1240 SCSI Host Adapters  <b>Qlogic</b> 2100 Fibre Channel Adapters (private loop only)</p> <p><b>DTC</b> 3290 EISA SCSI controller in 1542 emulation mode</p>
<b>CPU</b>	Single processor of <b>Intel</b> x86 or <b>AMD</b> equivalent
<b>Hard Disks</b>	IDE, SCSI or Wide SCSI disks
<b>Tape Drives</b>	SCSI tape drives including DAT and 8 mm Exabyte
<b>Ethernet Adapters</b> <sup>3</sup>	<p><b>Adaptec</b> Duralink PCI Fast Ethernet adapters based on the Adaptec AIC-6915 Fast Ethernet controller chip, including the following:  ANA-62011 64-bit single port 10/100-BaseTX adapter  ANA-62022 64-bit dual port 10/100-BaseTX adapter (Duo 64)  ANA-62044 64-bit quad port 10/100-BaseTX adapter  ANA-69011 32-bit single port 10/100-BaseTX adapter  ANA-62020 64-bit single port 100-BaseFX adapter</p> <p><b>Allied-Telesis</b> AT1700 and RE2000 cards</p> <p><b>Alteon Networks</b> PCI Gigabit Ethernet NICs based on the Tigon 1 and Tigon 2 chipsets, including the following:  <b>3Com</b> 3c985-SX (Tigon 1 and 2)</p>

	<p> <b>Alteon</b> AceNIC 1000baseSX (Tigon 1 and 2)  <b>Alteon</b> AceNIC 1000baseT (Tigon 2)  <b>DEC/Compaq</b> EtherWORKS 1000  <b>Farallon</b> PN9000SX  <b>NEC</b> Gigabit Ethernet  <b>Silicon Graphics</b> Gigabit Ethernet </p> <p> <b>AMD</b> PCnet/PCI (79c970 &amp; 53c974 or 79c974)  <b>AMD</b> PCnet/FAST, PCnet/FAST+, PCnet/FAST III, PCnet/PRO, PCnet/Home, and HomePNA. </p> <p> <b>SMC</b> Elite 16 WD8013 Ethernet interface, and most other WD8003E, WD8003EBT, WD8003W, WD8013W, WD8003S, WD8003SBT and WD8013EBT based clones  <b>SMC</b> Elite Ultra  <b>SMC</b> Etherpower II </p> <p> 8129/8139 Fast Ethernet NICs including the following:  <b>Allied Telesyn</b> AT2550  <b>Allied Telesyn RealTek</b> AT2500TX  <b>Genius</b> GF100TXR (RTL8139)  <b>NDC Communications</b> NE100TX-E  <b>OvisLink</b> LEF-8129TX  <b>OvisLink</b> LEF-8139TX  <b>Netronix Inc.</b> EA-1210 NetEther 10/100 KTX-9130TX 10/100 Fast Ethernet  <b>Accton</b> "Cheetah" EN1027D (MPX 5030/5038; RealTek 8139 clone?)  <b>SMC</b> EZ Card 10/100 PCI 1211-TX </p> <p> <b>Lite-On</b> 82c168/82c169 PNIC Fast Ethernet NICs including the following:  <b>LinkSys</b> EtherFast LNE100TX  <b>Matrox</b> FastNIC 10/100  <b>Kingston</b> KNE110TX </p> <p> <b>Macronix</b> 98713, 98713A, 98715, 98715A and 98725 Fast Ethernet NICs  <b>NDC Communications</b> SFA100A (98713A)  <b>CNet</b> Pro120A (98713 or 98713A)  <b>CNet</b> Pro120B (98715)  <b>SVEC</b> PN102TX (98713) </p> <p> <b>Macronix/Lite-On</b> PNIC II LC82C115 Fast Ethernet NICs including the following:  <b>LinkSys</b> EtherFast LNE100TX Version 2 </p> <p> <b>Winbond</b> W89C840F Fast Ethernet NICs including the following:  <b>Trendware</b> TE100-PCIE </p> <p> <b>VIA Technologies</b> VT3043 "Rhine I" and VT86C100A "Rhine II" Fast Ethernet NICs including the following:  <b>Hawking Technologies</b> PN102TX  <b>D-Link</b> DFE-530TX  <b>AOpen/Acer</b> ALN-320 </p> <p> <b>Silicon Integrated Systems</b> SiS900 and SiS7016 PCI Fast Ethernet NICs </p>
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**Sundance Technologies** ST201 PCI Fast Ethernet NICs including **D-Link** DFE-550TX

**SysKonnnect** SK-984x PCI Gigabit Ethernet cards including the following:

SK-9841 1000baseLX single mode fiber, single port

SK-9842 1000baseSX multi-mode fiber, single port

SK-9843 1000baseLX single mode fiber, dual port

SK-9844 1000baseSX multi-mode fiber, dual port

**Texas Instruments** ThunderLAN PCI NICs, including the following:

**Compaq** Netelligent 10, 10/100, 10/100 Proliant, 10/100 Dual-Port

**Compaq** Netelligent 10/100 TX Embedded UTP, 10 T PCI UTP/Coax, 10/100 TX UTP

**Compaq** NetFlex 3P, 3P Integrated, 3P w/ BNC

**Olicom** OC-2135/2138, OC-2325, OC-2326 10/100 TX UTP

**Racore** 8165 10/100baseTX

**Racore** 8148 10baseT/100baseTX/100baseFX multipersonality

**ADMtek Inc.** AL981-based PCI Fast Ethernet NICs

**ADMtek Inc.** AN985-based PCI Fast Ethernet NICs

**ADMtek Inc.** AN986-based USB Ethernet NICs including the following:

**LinkSys** USB100TX

**Billionton** USB100

**Melco Inc.** LUA-TX

**D-Link** DSB-650TX

**SMC** 2202USB

**CATC** USB-EL1210A-based USB Ethernet NICs including the following:

**CATC** Netmate

**CATC** Netmate II

**Belkin** F5U111

**Kawasaki** LSI KU5KUSB101B-based USB Ethernet NICs including the following:

**LinkSys** USB10T

**Entrega** NET-USB-E45

**Peracom** USB Ethernet Adapter

**3Com** 3c19250

**ADS Technologies** USB-10BT

**ATen** UC10T

**D-Link** DSB-650

**SMC** 2102USB

**SMC** 2104USB

**Corega** USB-T

**ASIX Electronics** AX88140A PCI NICs, including the following:

**Alfa Inc.** GFC2204

**CNet** Pro110B

**DEC** EtherWORKS III NICs (DE203, DE204, and DE205)

**DEC** EtherWORKS II NICs (DE200, DE201, DE202, and DE422)

**DEC** DC21040, DC21041, or DC21140 based NICs (SMC Etherpower 8432T, DE245, etc)

**Davicom** DM9100 and DM9102 PCI Fast Ethernet NICs, including the

	<p>following:</p> <p><b>Jaton Corporation</b> XpressNet</p> <p><b>Fujitsu</b> MB86960A/MB86965A, including the following:  <b>CONTEC</b> C-NET(PC)C Ethernet  <b>Eiger Labs</b> EPX-10BT  <b>Fujitsu</b> FMV-J182, FMV-J182A, MBH10302, MBH10303 Ethernet PCMCIA  <b>Fujitsu</b> Towa LA501 Ethernet  <b>HITACHI</b> HT-4840-11  <b>NextCom</b> J Link NC5310  <b>RATOC</b> REX-5588, REX-9822, REX-4886, REX-R280  <b>TDK</b> LAK-CD021, LAK-CD021A, LAK-CD021BX</p> <p><b>HP</b> PC Lan+ cards (model numbers: 27247B and 27252A).</p> <p><b>Intel</b> EtherExpress 16  <b>Intel</b> EtherExpress Pro/10  <b>Intel</b> EtherExpress Pro/100B PCI Fast Ethernet  <b>Intel</b> InBusiness 10/100 PCI Network Adapter  <b>Intel</b> PRO/100+ Management Adapter  <b>Intel</b> PCI gigabit Ethernet adapters based on the Intel 82540, 82542, 82543, 82544 and 82546 Ethernet controller chips.</p> <p><b>Isolan</b> AT 4141-0 (16 bit)  <b>Isolink</b> 4110 (8 bit)</p> <p><b>Novell</b> NE1000, NE2000, and NE2100 Ethernet interface.</p> <p>PCI network cards emulating the NE2000: <b>RealTek</b> 8029, <b>NetVin</b> 5000, <b>Winbond</b> W89C940, <b>Surecom</b> NE-34, <b>VIA</b> VT86C926</p> <p><b>3Com</b> 3C501 cards  <b>3Com</b> 3C503 Etherlink II  <b>3Com</b> 3C505 Etherlink/+  <b>3Com</b> 3C507 Etherlink 16/TP  <b>3Com</b> 3C529 (MCA), 3C579,  3C589/589B/589C/589D/589E/XE589ET/574TX/574B (PC-card/PCMCIA),  3C590/592/595/900/905/905B/905C<sup>4</sup> PCI, 3C556/556B MiniPCI and EISA  (Fast) Etherlink III / (Fast) Etherlink XL  <b>3Com</b> 3C980/3C980B Fast Etherlink XL server adapter  <b>3Com</b> 3cSOHO100-TX OfficeConnect adapter</p> <p><b>Crystal Semiconductor</b> CS89x0-based NICs, including:  <b>IBM</b> Etherjet ISA</p> <p><b>National Semiconductor</b> DP8393X (SONIC) Ethernet cards, including:  NEC PC-9801-83, -84, -103, and -104  NEC PC-9801N-25 and -J02R</p>
<b>Token Ring Adapters</b> <small>5,6</small>	<b>Olicom</b> Rapid Fire 3140

<b>UPS devices</b>	<b>APC</b> BackUPS 500, SmartUPS 700 and SmartUPS 1000
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## Note:

1. The default standard mode is the most compatible mode. Standard mode requires IRQ, DMA and I/O port definitions by the installer. Only 4 AHA-174x host adapters can be used if all are in standard mode because of the number of available DMA channels for use in this mode. Enhanced mode allows the installer the luxury of not having to worry about the DMA, IRQ and I/O address. This is all taken care of by the EISA motherboard. Enhanced mode also is the only mode that supports fast SCSI (up to 10 MB/second). Up to 4 gigabyte of RAM is supported in enhanced mode, with up to 12 host adapters being allowed, with the limit imposed by the number of EISA slots. Both standard and enhanced modes support 32-bit addressing.
2. Support has been added for Adaptec Ultra3 SCSI adapters using AIC7892 and AIC7899 chipsets.
3. The NIC drivers that have been added since v6.02 are **al**, **mx**, **pn**, **rl**, **sf**, **sk**, **vr**, and **wb**:
  - The **al** driver provides support for PCI ethernet adapters and embedded controllers based on the ADMtek Inc. AL981 Comet and AN 985 Centaur fast ethernet controller chips.
  - The **mx** driver provides support for PCI Ethernet adapters and embedded controllers based on the Macronix 98713, 98713A, 98715, 98715A and 98725 fast Ethernet controller chips. This includes the NDC Communications SOHWARE SFA110, the SVEC PN102-TX fast Ethernet card, and various other adapters.
  - The **pn** driver provides support for PCI Ethernet adapters and embedded controllers based on the Lite-On 82C168 and 82C169 fast Ethernet controller chips. This includes the LinkSys LNE100TX, the Bay Networks Netgear FA310TX revision D1, the Matrox Networks FastNIC 10/100, certain adapters manufactured by D-Link and Trendware, and various other commodity fast Ethernet cards.
  - The **rl** driver provides support for PCI Ethernet adapters and Embedded controllers based on the RealTek 8129 and 8139 fast Ethernet controller chips. This includes the Allied Telesyn AT2550, Genius GF100TXR, NDC Communications NE100TX-E, OvisLink LEF-8129TX, OvisLink LEF 8139TX, Netronix Inc. EA-1210 NetEther 10/100, KTX-9130TX 10/100 Fast Ethernet, Encore ENL832-TX 10/100 M PCI, Longshine LCS-8038TX R, the SMC EZ Card 10/100 PCI 1211-TX, and various other adapters. It also supports the Accton EN1207D which has a chip labelled MPX5030 (or MPX5038) which appears to be a RealTek work-alike.
  - The **sf** driver provides support for Adaptec Duralink (Duo64) fast ethernet adapters based on the Adaptec AIC-6915 "Starfire" chipset. This includes the following:

ANA-62011 64-bit single port 10/100baseTX adapter

ANA-62022 64-bit dual port 10/100baseTX adapter

ANA-62044 64-bit quad port 10/100baseTX adapter

ANA-69011 32-bit single port 10/100baseTX adapter

- The **sk** driver provides support for the SysKconnect SK-984x series PCI gigabit Ethernet adapters, including the following:

SK-9841 SK-NET GE-LX single port, single mode fiber adapter

SK-9842 SK-NET GE-SX single port, multimode fiber adapter

SK-9843 SK-NET GE-LX dual port, single mode fiber adapter

SK-9844 SK-NET GE-SX dual port, multimode fiber adapter

- The **vr** driver provides support for PCI Ethernet adapters and embedded controllers based on the VIA Technologies VT3043 Rhine I and VT86C100A Rhine II fast Ethernet controller chips.
- The **wb** driver provides support for PCI Ethernet adapters and embedded controllers based on the Winbond W89C840F fast Ethernet controller chip. This includes the Trendware TE100-PCIE and various other cheap boards. The 840F should not be confused with the 940F, which is an NE2000 clone and only supports 10Mbps speeds.

#### 4. Notes for 3C90X series

- 3Com now have a 3C905J which is actually a 3C905B and is supported, also the 3C905C is the same as a 3C905XW.
- 3C90X series cards are NOT recommended for network that carry heavy traffic

5. Support for ISA Token Ring, newer NetGear NIC cards using the sis device driver has been dropped. Earlier NetGear NIC cards using the **vr** device driver are supported.

6. On some Compaq and SCSI systems the default disk geometry settings must be changed or the system will not be able to boot after the software has been installed.

The default geometry values reported by the BIOS are 64 Heads, 32 Sectors, and n cylinders. These values will work fine in most cases. However, in some cases the disk geometry needs to be calculated and entered manually using the values of 255 heads, 63 sectors, and y cylinders. To calculate what value to use for cylinders (y) use the following formula:

$$\text{Cylinder (y)} = (n * 64 * 32) / (255 * 63)$$

Example:

The default geometry values that the install program reports for our Compaq machine is 8678 cyls, 64 heads, and 32 sectors.

Using the formula to determine the number of cylinders:

$$\text{Cylinders (y)} = (8678 * 64 * 32) / (255 * 63) = 1106.$$

We find the geometry values need to be changed to 1106 cylinders, 255 heads, and 63 sectors.



