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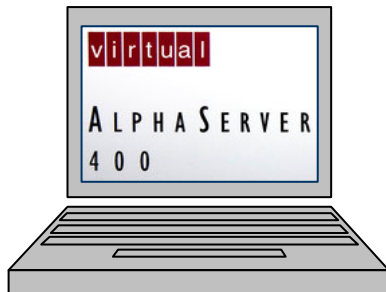
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*Continuity in Computing*

## FreeAXP™ SPD V1.0 – 08-FEB--2011 Digital Emulator Collection

### Software Product Description



FreeAXP is a virtual AlphaServer 400 designed to be hosted on a **Windows x86** and **x64** systems. This highly portable product offers the following key features:

- OpenVMS support
- Tru64 UNIX support
- Simple configuration
- Commercial and hobbyist licensing
- Optional support contracts

Best of all, the product is free.

FreeAXP is designed to virtualize legacy Alpha hardware. The product is *binary compatible* with real Alpha hardware, allowing the resident operating system and software to be ported to FreeAXP without modification or the need for source code. For all intents and purposes, FreeAXP offers a simple way to upgrade existing Alpha systems to new hardware.

FreeAXP supports 32 – 128MB of virtual memory, up to seven storage devices, including a physical CD/DVD-ROM, two 100Mb NICs, one virtual serial console, and one virtual serial port.

FreeAXP provides an introduction to Migration Specialties legacy Alpha virtualization products. It is designed for hobbyist and non-critical system use. Clients requiring additional performance and capabilities should look at Migration Specialties commercial Alpha replacement solutions. FreeAXP is provided free of charge without warranty or official support.

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Migration Specialties conducts its business in a manner that conserves the environment and protects the safety and health of its employees, customers, and the community.

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## HOST SERVER REQUIREMENTS

These are minimum recommended host system requirements. Faster hardware will provide better performance.

- Windows 32 or 64-bit O/S: XP, Vista, 2003, 2008, 7
- Dual core processor
- Memory
  - 2GB: Windows XP, Server 2003
  - 4GB: Windows Vista, 7, Server 2008
- Sufficient disk space to support virtual disk image files.

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## FREEAXP SOFTWARE PACKAGE

The FreeAXP software package, User Guide, and Release Notes can be downloaded from the FreeAXP home page. The kit includes the FreeAXP emulator, configuration utility, WinPcap<sup>1</sup>-based NDIS network driver, and PuTTY<sup>1</sup> terminal emulator.

**FreeAXP Home Page:** <http://migrationspecialties.com/FreeAXP.html>

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## MEMORY

FreeAXP supports 32 to 128MB of memory in 32MB increments. Supported memory options are 32MB, 64MB, 96MB, 128MB.

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## STORAGE

FreeAXP provides an emulated KZPAA SCSI controller that supports up to seven virtual disks or CD/DVD-ROMs. One device can be designated as a physical CD/DVD-ROM. Our commercial products support additional controllers and devices.

### Internal Storage

Virtual disk drives are supported as image files under the host operating system. File location is limited only by the host system. FreeAXP limits virtual disk size to 1TB per disk. Disk size is further limited by the operating system running on FreeAXP. For example, FreeAXP running OpenVMS version 6.2 would be limited to virtual disk sizes of 9GB.

### Removable Media Devices

FreeAXP supports a single physical CD/DVD-ROM device. Our commercial products support additional physical CD/DVD devices. CDs and DVDs can also be copied as ISO files and accessed as virtual media.

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<sup>1</sup> FreeAXP includes software developed by the Computer Systems Engineering Group at Lawrence Berkeley Laboratory and Simon Tatham. See the FreeAXP license agreement for additional details.

## External Expansion

Virtual disks can be created on external storage devices accessible to the host system.

## Controllers

Virtual KZPAA SCSI controller supporting one to seven devices.

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## CONSOLE

FreeAXP provides SRM console access via a virtual serial port (OPA0).

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## COMMUNICATIONS

- Up to two virtual 10/100Mb DE500 NICs. External performance is driven by the host system and may exceed 100Mb.
- One virtual serial console (OPA0).
- One virtual serial port (TTA0 or /dev/tty01). Telnet access only, no physical serial device support. Physical serial device support is offered in Migration Specialties commercial emulators.

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## PRINTERS

Network printer support dependent upon O/S running on FreeAXP.

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## CONFIGURATION

FreeAXP is configured via a simple Windows interface.

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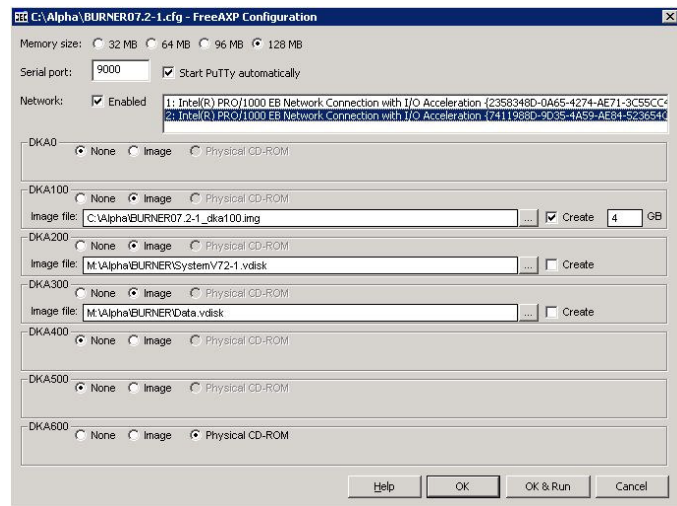
## SOFTWARE

### Operating Systems

- OpenVMS V6.1-1H1 and greater
- Digital OSF/1 V3.2C and greater
- Tru64 UNIX V3.2C and greater

FreeAXP implements the Alpha SRM firmware, limiting O/S support to those O/S's that can boot from SRM. Thus, FreeAXP does not support WindowsNT.

FreeAXP implements a virtual serial console, but does not implement a graphics card, so O/S's requiring a graphical interface are not supported. We welcome reports from the field of successful implementation of any operating system and will post this information on our web site and the FreeAXP forum. FreeAXP has not been tested against O/S's such as Red Hat Linux, NetBSD, FreeBSD, and OpenBSD, which do utilize the Alpha SRM firmware



*FreeAXP Configuration Screen*

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## Terminal Emulator

- PuTTY: Free implementation of Telnet and SSH for Windows and UNIX platforms. A copy of PuTTY is provided with FreeAXP. The software is also available from this link:  
<http://www.chiark.greenend.org.uk/~sgtatham/putty/>

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## WARRANTY

FreeAXP is freeware. It is provided as is without warranty or official support. Use it at your own risk.

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## UNSUPPORTED OPTIONS

- FreeAXP has not implemented the EV4 CPU on-chip performance counters. Code profiling applications such as kprofile and uprofile will not work correctly on the emulator.

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## SUPPORT

FreeAXP questions and problem reports can be posted to the FreeAXP forum at <http://vmshobbyist.org/forum>. Migration Specialties will respond as time permits.

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## UPDATES

Migration Specialties may post updates to FreeAXP at any time. Notices of updates will be posted on the Migration Specialties web site, to the FreeAXP mailing list, and in various Alpha related publications.

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## TESTED O/S

FreeAXP has been tested under the following 32 and 64-bit operating systems:

Windows XP	Windows Server 2003	Windows Server 2003 R2
Windows Vista	Windows 7	Windows Server 2008
Windows Server 2008 R2		

FreeAXP has also been hosted on Windows O/S running under VMware®, Sun VirtualBox, Apple Parallels, and Apple Boot Camp.

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## COUNTRY OF ORIGIN



FreeAXP was developed by an international team with members from the USA, Canada, The Netherlands, and the UK. FreeAXP is owned and controlled by Migration Specialties International, Inc., a US corporation.