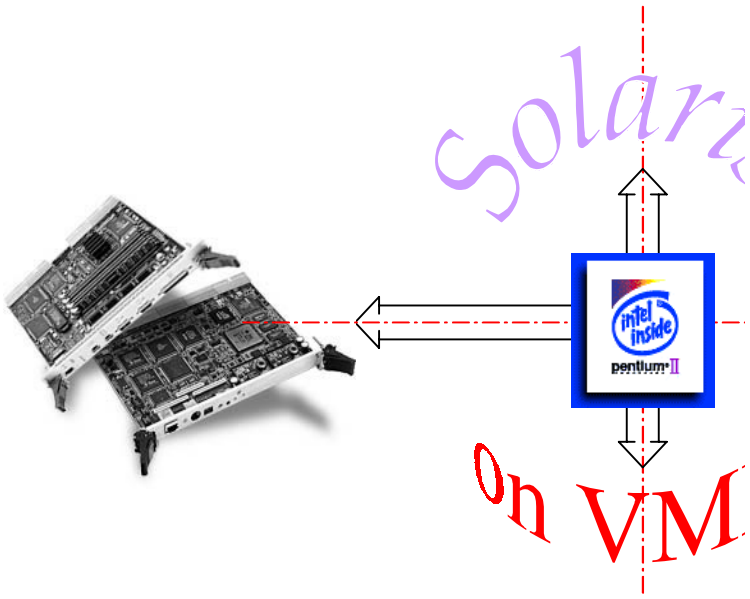
SFx86-VME *Solflower's VME nexus device driver for Solaris® x86*

A VME nexus device driver for Solaris®-x86 Intel platform



General

The Solflower SFx86-VME is a nexus device driver that allows standard Sun4 VME drives to run on Solaris-x86 Intel platform. The standard Sun4 VME device driver supports a wide range of device types, including DSP, graphic interfaces and communication devices. The Solflower x86-VME runs on any Intel X86 processor based system with a PCI-VME interface from Tundra Semiconductor.

The time and effort to develop a Solaris compatible VME drivers depends upon the complexities of the devices themselves. It can take some significant work to create a set of fully debugged device drivers for the platform. SFx86-VME helps to shorten the development cycle of the port to Solaris by using of off-the-shelf Sun4 VME drivers and provide plug-and-play in most of the cases. In addition SFx86-VME offers source-code kit that supply mmap() read() write() ioclt() and DMA routines between two busses.

Features

- Supports Solaris 2. x as a nexus driver.
- Supports all VME address modes A16, A24, A32 and data widths D8, D16, D32 and D64.
- Supports linked-list DMA using onboard hardware DMAengine in the Universe chip.
- Distributed in pkg_add for simplifying sofware installation process
- Enables all VME switch options such as time-out, interrupt, bus level, burst-size per software configuration file.

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Operation

SFx86-VME is distributed in Solaris 2.x pkg_add format, and comprised of the following components:

pvme — The executable SFx86-VME device driver

pvme.conf — The device configuration file to assign interrupt priority PCI address ranges and VME switch option settings.

```
max-retry=8;
posted-write=1;
request-level=3;
request-mode="demand";
release-mode="release-on-request";
bus-timeout=7;
arb-timeout=2;
dtack-enable="rescind";
arb-mode="priority";
ctl-mode="syscon";
pci-abs=1;
```

devlink.tab — Specification for how to create the symbolic links in the /dev directory for the PVME device files. This file is appended to /etc/devlink.tab when you run "pkgadd" to install the PVME device driver.

Tests — A directory that contains a test program and source code that shows you an example of how to open the PVME device files and perform various operations, such as mmap a chunk of VME memory or dump the contents of the PVME control registers. Included is a simple VME memory verification test.

vmemem — A directory that contains a simple VME pseudo driver. This driver provides access to a VME memory card. It illustrates how to access and configurea VME device under the PVME nexus driver.

```
vmemem.conf   "Solflower Computer, Inc."
Configuration file for a pseudo device on the VME bus
implemented with a VME memory board.

This .conf file specifies that the device has the following characteristics:
VME Space:    A32D32 (== 0x4d)
VME Address:  0x8000
Device Size:  0x20000 bytes.
name="vmemem" parent="pvme" reg=0x4d,0x8000,0x20000
interrupts=1,0x44 class-code=0;
name="vmemem" parent="pvme" reg=0x7d,0x8000,0x20000
interrupts=1,0x45
```

Licensing

The SFx86 is a licenced product. One license is required for each CPU platform in which SFx86 is used. Contact Solflower Computer, Inc. for License obtaining.

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