

BennuProposal BennuBackgroundInfo

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Bennu Background Info

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Date: December 2007

Online version: <http://wiki.apache.org/incubator/BennuProposal/BennuBackgroundInfo>

Status: .

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A Little History

To provide some background, m0n0wall is a PHP based management layer on top of FreeBSD. Management of FreeBSD based software service is provided to the user by exposing a HTML based user interface.

The intent is probably similar to projects like Webmin. In contrast m0n0wall doesn't provide a general purpose administration interfaces but puts an emphasise on a FreeBSD based administration facility. Additionally, compared to Webmin, m0n0wall is pretty lightweight and fits on a small sized compact flash card which may then serve as a foundation for an embedded firewall system.

About (Embedded) Firewall Hardware

Embedded firewall systems are regularly run on embedded boards like the Soekris boards with the following specifications:

- 433 to 600 Mhz AMD Geode LX single chip processor with CS5536 companion chip
- 128-1024 Mbyte DDR-SDRAM, soldered on board
- CompactFLASH Type I/II socket, 8 Mbyte to 32 Gbyte FLASH or Microdrive
- UltraDMA-100 interface with 44 pins connector for 2.5" Hard Drive
- Serial ATA 1.0 interface for Hard Drive, with +5V and +12V power header
- 1-4 VIA VT6105M 10/100 Mbit Auto MDIX Ethernet ports, RJ-45, protected with 2KW/100A TVS
- USB 2.0 interface, one internal, one external port
- Mini-PCI type III socket. (for t.ex. hardware encryption or wireless controller)
- PCI Slot, right angle 3.3V signalling only, dual PCI slot option

Source: <http://www.soekris.com/net5501.htm>

A PCI slot and SATA/PATA should be considered optional because they are still not commonly found on embedded boards.

Another embedded device having even more constraints regarding computing power is the Armadillo-300 Series:

- CPU Clock: 200MHz (ARM926EJ-S)
- SDRAM64MB
- FLASH8MB
- 10BASE-T/100BASE-TX Ethernet port
- USB2.0
- miniPCI IEEE802.11a/b/g module
- CompactFLASH Type I/II socket

Source: <http://www.atmark-techno.com/en/products/armadillo/a300/specs>

At least on such embedded devices, computing power and the amount of RAM available should be considered as a constraint that will influence the design of the Bennu system.

Of course a software system designed for embedded x86 based hardware may run on regular x86 based hardware as well.