What other things does Sandelman Software Works do?

- Hardware
  - Host Processor interfaces req.
  - IPv4,v6,IPsec processing
  - Verilog/VHDL source code mgmt
  - boot monitors
  - initial firmware debugging
  - software requirements for embedded systems designs
- Software
  - Device drivers: Linux, *BSD, Solaris, VxWorks, ...
  - TCP/IP protocol implementation
  - system daemons, servers, clients
  - implementation of new protocols
  - design of new protocols
  - decoding IETF process
  - IETF design requirements explained
- Systems
  - system administration (contract)
  - network design consulting
  - VPN installation
  - security audits
  - server hardening
  - SSL (https) setup/configuration
  - mail and news configuration (SMTP, POP3...)
  - public key systems (PKI)
- Marketing Requirements

About the Company

Founded in 1996 by Michael Richardson, the company performs a breadth of services that keep Mr. Richardson in top form. There is nothing as much fun as doing a good design and seeing a system boot up for the first time. Two kinds of systems are particularly pleasing: new network protocols, and new pieces of hardware.

While occasionally an employee of a startup, Richardson discovered unique skills in communicating requirements among different communities: marketing, business development, network management, user interface, software and hardware design groups.

Contact Information

"The wonderful thing about standards is: ...there are so many."

Does this quote ring too true for your company? Perhaps you need the services of a:

Network
Device Consultant

Network Device Consulting

Recent advances have resulted in amazing reductions in the cost of producing custom systems. This has meant that many companies that were either software-only or hardware-only find themselves doing both. Of particular note is new portable or low cost network appliances: they have just enough hardware to interface in some way to the Internet, and specialized firmware to make this useful. Even in edge and core network switching devices, a line card may have similar power and space requirements to a GPRS/GPS enabled MP3 "walkman".

The most serious challenge in many places building devices that connect to or make up the Internet is that it is a hybrid of hardware and software. Few people are good at both. Hardware is flexible in many new ways: FPGAs, Network Processors, need firmware written and then loaded. Software people are more frequently being asked to deal with devices and environments so foreign to them that they do not know where to start.

At the same time, software is interacting with other software over networks - anything can happen. Most of it is out of the programmers' control. Yet, the system must not crash, and can not go into unknown states. I can help architect your system so that it is clear who is responsible for recovery from each failure - whether hardware, software, or network.

I am a system software expert. Although I do not generally do VHDL or Verilog, I understand it, and the challenges facing hardware designers. I speak their language, and I can translate to "software-ease" as well as "marketing-ease".

I know how to take the 40 years of accumulated software maintenance experience and apply it, for instance, to manage your Verilog firmware source.

I'll be able to help you estimate how much software effort will be required given some set of hardware choices you might make. Clearly, not all network processors are created equal.

In the other direction, you'll want to get me involved early in your hardware design process - I can can help make sure that no re-spins of the board occur due to lack of a serial console port to help debug the software.

I have a unique talent for translating marketing speak into geek speak, and vica-versa. I know how to twiddle-bits, and how to explain the need to do this to non-techies. I understand how to build an environment where people can work efficiently, and focus on the key objective: on-time, on-budget finished products.

Protocols and Standards

Getting the hardware and software right is often not enough. Your device may have to interoperate with other vendors' devices, either competitors or partners. This means protocols have to work. I know what others have done - I can help you get it right as well.

Part of this problem is selecting the right standards to implement. No point in having then best telnet interface around if people want SSH. What about the future? Will you be able to offer new features through firmware updates, or will they require new systems?
Perhaps you want to be a leader and innovate in a space nobody is in. Perhaps you need to provide a basic feature - no frills required. What's correct and what's popular aren't always the same thing either. Most products are a mix of the new and the tried and true. I can help navigate this space.

Consulting Services
- project planning
- marketing requirements review
- Verilog/VHDL source code management
- simulation setup/automation help
- evaluation of NPU, co-processors, SoC
- integration planning
- testing planning
- risk evaluation
- code reviews

Contracting services
- boot monitor creation/porting
- custom BSPs for *BSD,Linux,VxWorks
- device drivers for custom hardware