

Patrick R. McManus

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Experienced software engineer and entrepreneur with proven success in multiple startup and emerging technology ventures. Emphasis has been on bridging technical systems programming with networking environments into a hardware appliance form factor. Specific experience includes hands-on engineering, people and project management, design, invention and leadership. I have a successful entrepreneurial background that illustrates deep technology knowledge along with the dogged commitment and acumen of both market and people that is necessary for innovation.

Market Experience

IBM 2005 - 2007
Senior Software Engineering Manager

- People management responsibilities for the data plane department of the IBM SOA Appliances organization. This includes hiring/firing, budgetary, career development, and performance evaluation.
- Project design and management responsibilities with my team.
- Architectural responsibility for various appliance protocol adapters and quality of service prioritizations.
- Implementation of a number of SOA/XML appliance networking features.
- Inventor of one IBM patent still pending

Datapower Technology 2002 - 2005
Engineer

Datapower was the pioneer in XML-aware networking. I was an early member of the engineering team. I joined as part of the A-round venture funding. Datapower built custom designed XML processing appliances for the acceleration, security, and B2B (SOA) markets. The company had a successful exit event through an acquisition by IBM in October, 2005.

- Developed and championed Datapower philosophy of tight hardware and software integration on a hybrid COTS/custom platform that allowed us to build a product superior to one that could be deployed on commodity hardware but at a price point less expensive than an all custom design.
- Responsible for systems programming, networking, Linux Kernel, scheduling, and hardware integration.
- Many protocol implementations and designs including HTTP, DHCP, etc..
- Architected high volume networking stack.
- Developed Linux kernel device drivers for custom XML processing hardware
- Responsible for performance optimizations, and analysis for holistic aspects of the appliances.
- Customer and Sales/Trial experience – including high pressure demos and debugging sessions
- Inventor of one Datapower patent still pending

AppliedTheory Corporation 1996 - 2002
Senior Systems Architect, Product Development Unit

AppliedTheory was a startup focused on the emerging web hosting, Internet access, and web development sectors. I joined the company as part of its founding event. I focused on building projects that spanned those three focus areas and found synergies within them in order to build greater value on the network infrastructure owned by the company. AppliedTheory had a successful exit event through an IPO in February 1999.

- Technical founder and leader of the research and development organization within AppliedTheory. - charged with creating new technologies that enhance and unify the core AppliedTheory web hosting, development, and IP access product lines through the applied study of network protocol scalability and standardization problems.
- Designed and lead development group for DeltaEdge. DeltaEdge is a Web Content Distribution Network that uniquely supports dynamic applications by using advanced differential techniques that are compatible with standard deployed HTTP environments.
- Represented AppliedTheory interests in the Internet Engineering Task Force (IETF) standards organization.
- DeltaEdge required implementation of a complete high capacity HTTP/1.1 compliant proxy cache including networking

facilities, memory management, cache replacement policy, disk management strategy, content positioning and coherency tools.

- Designed and implemented a passive DNS request routing system for localization of global HTTP load balancing. The DNS system required a read-only BGP (v4) implementation, use of Autonomous System Overlays, and Linux kernel modifications.
- Team leader for development groups ranging from 3 to 7 in size, overseeing design, project management, etc..
- Inventor of patent US 6,826,626 *Method and Apparatus for Rapid Retrieval of Data in a Content Distribution Network*

NYSERNet, Inc

1994 - 1996

Network Information Specialist

NYSERNet is one of the founding 7 regional networks that comprised the NSF funded Internet. Our goal was to rapidly expand provisioning of the Internet infrastructure of New York State while developing applications that brought value to this technology.

- Lead developer of America's Job Bank (www.ajb.org) versions 1.0, 1.1, 2.3, and affiliated association version. AJB represents the Federal Department of Labor's Internet presence. This is a demanding high performance application that integrates local job offices around the country in real time with the Internet.
- Various programming projects building software integration onto the nascent World Wide Web platform

Independent Projects

I have worked on a variety of independent open source contributions. These include the first implementation of DCCP (the Datagram Congestion Control Protocol) within the Linux kernel, as well as a variety of programs and patches related to networking and higher level applications. They may all be accessed on my website: <http://www.ducksong.com/>

I have also provided advice to various book publishers on the organization and marketing of several titles dealing with Content Distribution Networks, and Network Transport.

Education

Rensselaer Polytechnic Institute: Matriculated with partial progress towards Masters in Computer Science

Worcester Polytechnic Institute: Bachelor of Science in Computer Science Awarded February 1996
Degree awarded with High Distinction (highest graduation honor)

Academic Awards

- Jon C. Strauss award for outstanding junior in computer science
- Received 1996 Provost's Award for best Computer Science Major Qualifying Project
- Awarded honor society membership in Tau Beta Pi and Upsilon Pi Epsilon

Skills

The chief skills required in any entrepreneurial technology endeavor are those that enable the blending of a technical advance with the needs of a developing marketplace. These are chiefly architectural experience in networks, computer architecture, and electronics mixed with versatility, creativity, and initiative on a day to day basis..

On the engineering side my background features first the tools of a performance oriented systems developer: C, C++, assembly, oprofile along with a detailed understanding of locking, scheduling, messaging, and TCP/IP. Other circumstances call for python, ruby on rails, XML/XSLT, .net or the technology of the day.

On the business side, I have strong written and verbal communication skills and the ability to rally and manage people. Technical reports, group presentations, and literature surveys are routine work tasks. I have applied these skills in a range of environments - including team, independent and mentoring situations.