

# John Fred Nixon, Ph.D.

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## Career Summary

20 years expertise in IP networking, software development, system security, and distributed system design; 10 years engineering management, meeting time and budget constraints. Insightful analysis of new technologies for business opportunity, technical feasibility, and architecture. Led development of world-class ISP systems with software in production today, plus application monitoring on a global scale.

## Skills

Program and development **management**. Full lifecycle product **design/development**. Extensive **C, Ruby, Rails, Javascript, IP networking**, and **distributed systems** experience, plus **Python, Continuous Integration**, and **Continuous Delivery** fundamentals. Expert mastery of **Internet protocols** and **network security**. **Linux/UNIX internals** and **system administration**.

## Employment

Feb/17-present *General Electric Company*

**Sr. Site Reliability Engineer** - Lead engineer of GE Digital monitoring team. Consulting support for GE Business units adopting New Relic monitoring. Automated monitor installation and silencing, and productized internal billing across GE. Member Critical Services and Healthcare Critical Services SWAT teams, creating a monitoring framework with automated ticketing for enterprise wide services.

Oct/15-Feb/17 *GP Research*

**CTO** - Designed and developed significant enhancements to email security based on the key distribution technology from the Dark Mail

Technical Alliance. *JustSign* signs email in an unobtrusive fashion, while *JustEncrypt* automatically encrypts email to addresses which publish a suitable public key.

May/15-Sep/15 *CAS Group*

**Senior Open Source Developer** - Developer for a reference implementation of the Draft RFCs from the Dark Mail Technical Alliance.

Nov/10-May/12 *Medicalendar*

**Founder** - Personal prescription manager targeted at caregivers and individuals with special medical needs, providing a comprehensive list of medications, dose reminder service, refill reminders, and drug interaction evaluation.

Nov/99-Aug/02 *Earthlink* (merged with *Mindspring*)

**VP Research and Development** - Evaluated and tested various last-mile IP delivery systems: broadband over power line, in-flight broadband, and wide area wireless (inspired by Ricochet and a few early specialist WISPs). I foresaw the emergence of in-flight broadband, and engaged hardware providers for in-flight broadband access.

Aug/95-Aug/02 *Mindspring Enterprises*

**VP Engineering** - Managed development of Mindspring's core ISP services (mail, web, nntp, DNS, authentication) during growth from thousands to millions of national customers. I developed one of the first large-scale IP-less web hosting services. Separated business from consumer services, launching business products department. Managed integration of several regional ISPs into the Mindspring infrastructure while retaining customers' legacy email addresses.

Jun/94-Aug/95 *Integral Systems, Inc.*

**Principle Consultant** - Networking, C/C++/x86 assembly development. Contractor at FedEx, developing the software emulation

testbed, radio modem device drivers, and interprocess communications library for handheld devices, porting radio software to the new architecture hardware.

Sep/90-Sep/94 *University of Tennessee at Chattanooga*

**Assistant Professor of Computer Science** – Research areas of distributed computing, networking security, and operating system design. Member of the Graduate and Undergraduate faculty, teaching classes from freshman intro level to graduate courses. Drove adoption of Pascal for introductory CS classes, awarded Outstanding Computer Science Professor based on student evaluations.

Sep/89-Sep/90 *General Electric Advanced Technology Labs*

**Senior Member of the Technical Staff** – Technical lead on distributed computation projects, including design of realtime extensions to the Mach OS; design of fault tolerant distributed testbed for Carnegie Mellon's Alpha OS.

Mar/87-Sep/89 *General Research Corporation*

**Senior Scientist** – Led development team for a distributed communications package through design, implementation, and integration with Army simulation projects. Major technical contributor during implementation and lifecycle maintenance.

### Education

Vanderbilt University    PhD, Computer Science

Vanderbilt University    BA, Physics, Mathematics, and Astronomy