

# John Smith

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## EDUCATION

**M.A Candidate, Telecommunications** **June 2004**  
Research concentration: Voice over IP, Anytown University

**B.S Applied Science & Computer Science** **June 2000**  
University of Anytown, Anytown, ST

### Relevant Coursework:

Telecom Policy • Telecom Finance • National Security • Industrial Organization • Data Structures and Algorithms • Logic Design • Networking, Linear and Industrial Electronics • Optical Systems • Telecom Microeconomics • Cisco Networking Academy Program Training • Telecom and Enterprise Networks • Project Management • Principles of Information Systems

## PROFESSIONAL EXPERIENCE

**Anytown University, Anytown, ST** **03/03 - 06/04**  
**Engineering, Research and Development Team, Center for Academic Technologies**

- Developed and administered a new Linux web / database environment to improve communication of academic services to customers.
- Developed and built 24 workstation images for university faculty as part of the faculty workstation project (FWI).
- Performed intrusion detection security scanning and monitoring using Eeye's Retina and Iris packages.
- Developed and designed customized Linux based router, Firewall, IDS, VPN server using Smoothwall solution.
- Built and administered application and web servers on Linux platform and assisted in the migration from a Windows 98/Novell /PCR-Dist environment to a Windows XP/Novell/Zenworks environment.
- Established VPN connection between RedHat server and Cisco VPN client using FreesWAN / IPsec.
- Experimented with PHP-based communication tools like discussion boards and live chat applications.
- Secured Apache Web server using different authentication and encryption modules.
- Set up a Content Management System using Zope object-oriented application server.
- Improved network security procedures using open source IPcop firewall/router solution.
- Provided helpdesk and software support for students and faculty in university's computer lab and maintained the computer lab facility.

**Intern -- Network Operation Ctr., Anytown Bank, Anytown, ST** **04/00 - 06/00**

- Defined standard configurations for Wi-Fi distance learning classrooms.
- Handled remote DAMA link responsibilities including link drops and troubleshooting network problems.
- Managed videoconference system and performed application server and CSU maintenance.

## COMPUTER SKILLS

**Operating systems:** MacOS, Windows, Linux, Cisco IOS, Panther Server

**Software:** Macromedia Flash, Adobe Photoshop, Adobe Illustrator, Dreamweaver, Microsoft Office suite, Frees Wan, Apache, Symantec Ghost, Samba

**Networking:** OPNET, Routing protocols, TCP/IP, SNMP, Novell, Apache web server, Linux server tools, L2TP/IPSEC

**Hardware:** Cisco routers and switches, IP Addressing, CAT5 Structured Cabling, Server installation and maintenance, Tape backup, Videoconference equipment, Dell 1655 Blade server

## ACADEMIC RESEARCH PAPERS AND PROJECTS

### Engineering

*WAN Network design:* Designed a nationwide ATM network, with VoIP capabilities using SIP servers that required an in-depth business case analysis with a detailed cost model, total cost of ownership and a bill of materials. The network was designed for 1000 users, 500 workstations, and 50 servers. The design, testing and documentation were done with Opnet, Visio, and Microsoft office. The objective of the project was to determine the cost, feasibility and more importantly, the technical implications of voice and data convergence in an enterprise environment.

*Enterprise network auditing:* Using Opnet, and other network tools, an enterprise network architecture was audited in order to demonstrate my IT analytical and troubleshooting skills that required identifying any bottlenecks and vulnerabilities in the given network and recommending upgrades and modifications in order to modernize the infrastructure.

### Policy

*Survey of domestic regulation of Enhanced Services and VoIP.* This project documented the evolution of US telecommunication policy from the 1934 Telecommunication Act to the recent FCC rulings on enhanced service provision and universal service requirements. The objective of the research paper was to determine if the FCC and Congress have promoted a regulatory environment that would generate new, competitive telecommunication services such as VoIP by analyzing current policy and FCC recommendations on future policy orientations aimed at catalyzing growth and competition in the telecommunication industry. The results of this analysis were set in the context of the emerging trends in the information, communication, and technology sectors.

*National Security:* This research project was an in-depth study of the vulnerabilities and benefits associated with the migration to converged, enhanced service telecommunication platforms. The scope of the study ranged from critical infrastructure protection, cyber-vulnerabilities, emergency preparedness, CALEA, homeland security, services reliability, and network resiliency. The impact that technological progress in telecommunications would have on national security efforts was evaluated.

*Impact of VoIP and Advanced Data Networks on Economic Growth of Underdeveloped Countries:* Using the case of the Senegal and the SAFE-3 fiber cable, the contribution advanced communication systems make to the economic growth of an underdeveloped nation was evaluated by examining the ideal political and regulatory climate necessary to foster investment in telecommunication facility and service build out.

### Economics and Finance

*VoIP Migration Cost Model:* This group project involved detailed research on the costs of VoIP and an elaborate cost model of different VoIP enterprise and carrier migrations (ranging from IP-Centrex to rip-and-replace) in order to understand the true cost advantages, if any of a converged network using PSTN telephony networks as a reference. The capital intensity and total cost of ownership of VoIP solutions was evaluated and some of the hidden costs often omitted when determining financial implications of VoIP migrations were identified and isolated.

*Financial Impact of VoIP on Telecommunications Industry:* This project studied the financial and economic impact of VoIP deployment on the information and communication technologies sector by evaluating the various network and service deployment strategies suggested by industry players (CPE manufacturers, ILECs, CLECS, ESPs). With a VoIP cost model, the future of VoIP was predicted, and its financial impact on the communications sector's growth was examined.