Bryan Fields

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Summary

Network, Wireless and Systems engineer with experience delivering proven solutions using products from Cisco and Alvarion as well as Linux based servers.

- Engineered Illiana Internet's 45 Mbit backbone using Cisco and Alvarion
- Set up Illiana Internet's servers to provide standard ISP application functionality
- Indoor deployments of Cisco APs in office and workshop areas
- Hold a FCC General Radiotelephone Operator License (GROL/PG), with RADAR Endorsement.
- Hold a FCC Extra License

Hardware Skills

- 802.11b/g system deployment, utilizing Cisco 350 and 1200 series access points and WLSM.
- Knowledge of Cisco routing and switching platforms; 800/1700/2600/4000 routers and 2900/3500/5505/5513 switches.
- Foundry layer 2/3 switching
- Experience with Cisco Pix and Checkpoint firewall products
- Design of conventional two way radio systems
- WLAN system design and deployment.
- Experience working with T1/DS3 and ATM Networks
- Advanced knowledge of Alvarion/ Breezecom radio equipment, including board level diagnostics
- Motorola Canopy system design and deployment
- Orthogon Systems PtP microwave radios
- Ceragon 6 and 18 GHz PtP, and PCOM 38GHz PtP radio link design
- UHF and microwave design circuit design with specialty in medium power amp design

Software Skills

- Debian Linux, on Intel, and Sparc hardware.
- Network administration and design using Cisco routers and switches under SNMP Monitoring
- Cisco Cat/OS and IOS, extensive experience using RIPv2/EIGRP/BGP with OSPF
- Alvarion VxWorks OS
- Network Analysis/Troubleshooting with Ntop and RMON
- Radio path modeling with Longley-Rice software and Pathloss 4.0
- FreeBSD and OpenBSD on Intel
- FreeRadius on Debian
- Asterisk PBX + VoIP SIP Phones
- Apache, ProFTPd, MySQL, postgreSQL, Interchange
- DNS with BIND and djbdns
- Email server deployment with qmail, virtual domains and spamassassin
- Samba 3.0 Domain Controller

Employment History

Level (3)
(3/2006-present)

RF/IP Network Engineer

Responsible for engineering and support of wireless IP network covering Orlando and Tampa areas. Implemented a new management scheme for all networking equipment, along with traffic graphing and configuration change control/backups. Worked closely with level 1 support staff in the NOC to resolve complex issues and improve documentation of the network. Revised, updated, and standardized network diagrams in Visio which enabled NOC staff to resolve network issues more efficiently.

Developed a new "green-field" network architecture that would enable high speed DIA and MPLS transport services via wireless last mile. Worked with marketing and management to revise this design and develop a business plan for a role out in the Orlando market. Presented this design to corporate management for review along with a guided tour of the present Orlando network.

Senior engineer involved with modeling and design phase of licensed and unlicensed radio data links for sales team. These designs covered links spanning 30 miles to a ¼ mile and bandwidth ranging from 10-800 Mbits/s. Specified site hardware, worked with tower vendors to determine appropriate antenna support structures for use at fiber nodes, and grounding for equipment. Implemented network upgrades for the Orlando network for increased throughput and brought grounding at these sites up to industry standards.

Worked extensively with a metro mesh network deployment on the engineering and security design. Modeled the Tropos mesh radios in the lab to better engineer our network in the field and quantify the security vulnerabilities of the Tropos equipment. Met with the vendor and had them address these vulnerabilities and mitigated them through firmware upgrades and security polices on routers.

Illiana Internet LLC
(12/2002-2/2006)

Designed and implemented a wide area wireless network covering parts of Lake, Porter, Newton, Kankakee and Will counties. Responsible for site selection, deployment, and operational decisions. Managed Day to Day operations, scheduling of customer installs, and logistics/tracking of network equipment inventory. Designed a layer two security model using multiple vlans that allows for routed, and bridged connections which limits unauthorized access and virus traffic.

Designed outdoor links spanning 15 to 20 miles used for high capacity back haul of customer data. Used multiple back haul links to interlink sites in a ring topology, providing automatic fail over and redundancy using EIGRP. Developed and implemented contingency plans ranging from router/switch up to total site failure.

Setup AP's in customer locations to redistribute access to the internal network allowing people to use laptops in the shop and trailers. Setup multiple vlans on an access point bound to different ESSID's to provide access to public and private networks with a single AP. Extensive experience with MAC address ACL's on Cisco IOS based AP's.

Engineered the network to prioritize VoIP frames, and implemented multiple Asterisk PBX servers for linking and control of a voice network. This consisted of custom hardware interface cards in the asterisk server, with custom voice linking hardware.

Urban Communications Inc.
(4/2001-9/2001)

Oversaw the design of wireless IP networks. In charge of installation, and troubleshooting of specialized radio and network equipment. Also performed antenna pattern measurement, and site surveys of prospective subscribers.