

Career Highlights

- Designed and implemented the first diskless version of the UNIX operating system. *At the time I built this, the idea of a portable, diskless UNIX computer was considered only a theoretical possibility.*
- Co-designed the first non-shared memory fully-coupled multiprocessor computer; lead the team developing the application that set the world record for most simultaneous IM-users. *This architecture proved itself by exceeding the capacity of mainframes costing ten to twenty times more.*
- Led the “rescue team” for British-Telecom-International attached processor (AP) successfully completing delivery of 5ESS gateway. *My team took a non-functional AP that was blocking delivery of a \$50M gateway and succeeded in meeting functionality, performance, and reliability objectives.*
- Designed and led the development team for a blood analysis robot for Abbott Labs. *This product revolutionized testing in blood banks by replacing the error prone human task of moving samples between test stations and correlating multiple test results.*
- Designed a .99999 architecture for cell phone applications architecture. *External requirements for cost and time-to-market required an integration-as-development paradigm. In spite of using off-the-shelf components, my architecture achieved the required availability.*

Experience

2002 - date AT&T, Kapa`a, HI

Principal Member of Technical Staff

- Responsibility for architecture, design and implementation of Internet security services, including firewalls and virtual private networks
- Sole responsibility for technical evaluation and selection of platform technology
- Sole responsibility for design of internal development environments
- Sole responsibility for high availability architecture and design
- Responsible for producing technical white papers for product management executive management to guide product evolution
- Skills: Group technical leadership, Project analysis, architecture, project management, internal consulting

1997 – 2002 Motorola ISCG, Kapa`a, HI

Member of Technical Staff

System Architect for High Availability and Scalability

- Sole responsibility for high availability and scalability architecture of all Internet Services Cellular Group (ISCG) products
- Sole responsibility for high availability and scalability analysis and hardening of all ISCG partner products
- Solely responsible for evaluating and testing the suitability of high availability and scalability infrastructures and hardware
- Solely responsible for availability modeling of complex systems, including Markov techniques, software-based Monte Carlo modeling, and other mathematical techniques.

Walt Barnes

Walt Barnes
5782 Ahakea St
Kapaa, HI 96746

808.823.6246
walt@real-net.com

- Member of the architecture team responsible for ISCG core operations, administrations, maintenance, and provisioning operator interfaces
- Developed marketing requirements
- Solely responsible for developing engineering requirements for high availability and scalability
- Skills: Group technical leadership, Project analysis, architecture, project management, internal consulting

1994 – 1997 Real Net Advertising, Naperville, IL

Internet Developer (Consulting)

- Designing and developed internet server software for database driven applications

1991 – 1997 Motorola CIG, Arlington Heights, IL

Member of Technical Staff (Consulting)

Software Architect for OAMP SuperCell

- Solely responsible for architecture of Operations, Administration, Maintenance, and Provisioning subsystem
- Technical leadership of OAMP development team
- Skills: Group technical leadership, Project analysis, architecture

Software Architect Custom Country Features EMX2500

- Solely responsible for software architecture to support country-specific customizations for the EMX 2500 cellular ESS, including Billing, Operator interface, and Signaling
- First office deployment support
- Skills: Group technical leadership, architecture, Internal consulting

1989–1991 Abbott Laboratories, Abbott Park, IL, (Consulting)

Team Leader

Architect and development team manager EUROBBS

- Sole responsibility for architecture of Euro Blood Bank System – a sequencing robot for automated analysis of blood products
- Sole responsibility for managing the team developing the Euro BBS
- Skills: Project analysis, architecture, project management, management

1980 – 1989 Bell Telephone Laboratories Naperville, IL

Member or Technical Staff

System Architect 5ESS International

- Sole responsibility for architecture British Telecom International division of revenue application
- Led development team through customer certification
- Software architect for various country-specific features
- Skills: Project analysis, performance analysis, architecture, project management, management

Applications Architect Apache

- Designed high capacity applications for proprietary clustered ultra-high performance servers

Walt Barnes

Walt Barnes
5782 Ahakea St
Kapaa, HI 96746

808.823.6246
walt@real-net.com

- Performance analysis of applications, including redesign to optimize use of clustered servers
- Led development team of OLTP server software that set the capacity record in the French Minitel network
- Pre-sales, post-sales customer support
- Skills: Group technical leadership, performance analysis, architecture, customer facing interfaces

System Architect Apache

- As part of a team of other architects, designed a UNIX kernel for proprietary clustered hardware
- Skills: performance analysis, architecture

Software Developer OLTP Applications 3B20D

- Ported an online transaction processing system to a fault tolerant version of UNIX
- Ported database applications to a fault tolerant version of UNIX
- Pre-sales, post-sales customer support
- Skills: performance analysis, architecture, development, customer facing interfaces, internal consulting

Software Developer TN85 / TN72 / 3B20D

- Solely responsible for designing and developing an embedded-processor-based user interface for positive control of a proprietary version of UNIX
- Solely responsible for designing and developing reliable protocols for fault tolerant dual embedded-processor controllers
- Skills: development

Software Developer 3B5 / 3B15

- Designed and developed one of the first virtual memory implementations for System V UNIX.
- Skills: development

Software Developer Field Test Set

- Solely responsible for porting UNIX to a diskless embedded system
- Skills: development

1978 – 1980 University of Houston Houston, TX

Systems Programmer

- Designed and developed local customizations for the university's mainframe computer
- Skills: development

1974 – 1977 University of Kansas Lawrence, KS

Assistant Instructor

- Solely responsible for developing lesson plans, teaching lab sessions, and evaluating student homework for graduate Computer Science classes in computer architecture

Teaching Assistant

Walt Barnes

Walt Barnes
5782 Ahakea St
Kapaa, HI 96746

808.823.6246
walt@real-net.com

- Solely responsible for developing lesson plans, teaching, and assigning grades for undergraduate Computer Science classes and programming classes in FORTRAN, Pascal, SNOBOL, ALGOL, COBOL, B, and hierarchical database languages

Publications

- Designing for Ultrahigh Availability: The Unix RTR Operating System, IEEE Computer, Vol. 17, Nr. 8, August 1984, S. 31–39.

Education

1982 Northwestern University Evanston, IL

Master of Science, Electrical Engineering and Computer Science

1977 University of Kansas Lawrence, KS

Bachelors, Computer Science

Community Service

Kauai Public Land Trust

- Board Member

Garden Isle Racing Association

- Past President, Former Board Member
- Volunteer

Kauai Island Utility Cooperative

- Founding, Former Board Member
- Former Chair of the Board of Directors Strategic Planning Committee

KIUC Foundation

- Founding, Former Board Member

Instructor for Nonprofit Boards

- Governance
- Strategic Planning