RESUME


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Research Interests

- High Performance Distributed Systems
- High Speed Network (ISDN, ATM Network)
- Distributed Multimedia Systems
- Parallel and Distributed Processing

Education

- Currently in Ph.D program in Computer and Information Science
  Syracuse University, Syracuse NY
- Master of Science in Computer Science, May 1994
  Syracuse University , Syracuse NY
- Bachelor of Science in Computer Science, Feb. 1987
  Sogang University, Seoul Korea

Work Experience

- January 1997 to Present
  Research Assistant at CASE (Computer Applications and Software Engineering) Center, Syracuse University, Syracuse NY, USA
- May 1996 to Present
  System Administrator at ATM HPDC Laboratory, Syracuse University
- June 1995 to August 1995
  Summer Intern at NYNEX Science and Technology, White Plains NY, USA
- August 1993 to December 1996
  Research Assistant at NPAC (Northeast Parallel Architectures Center), Syracuse University, Syracuse NY, USA
- Dec. 1986 to June 1992
  Research Engineer at GoldStar Telecommunication Research Institute (Curently changed to LG Electronics Inc.) Anyang City , Kyunggido , Korea

Work Description

1. **System Administrator at ATM HPDC Laboratory (From May 1996 to Present)**

   As a system administrator, I have installed and managed various ATM switches (e.g., IBM 8260 Switch, IBM 8285 Switch (25 Mbps), Cabletron MMAC-Plus Switch, Fore ASX-200, GDC APEX Switch) and ATM Adapter cards (e.g., IBM Turboway (100 Mbps, 25 Mbps), SUN ATM, Fore ATM, Zeitnet PCI, Efficient PCI). Also, I am responsible for managing different workstation clusters such as IBM, SUN Sparc, Linux etc.

2. **Research on Multimedia Transfer Protocol (From Sept. 1995 to Present)**

   This research is focused on designing a High Performance Communication Tool for ATM-based HPCC applications. In this effort, we designed and implemented a multithread-based message passing tool that can achieve high throughput and low latency transmission over the ATM network. I am responsible for designing and implementing this message passing tool.

3. **Research on Interworking between ISDN and B-ISDN (From Aug. 1994 to Aug. 1995)**

   This research is focused on finding the best scenario for interworking between N-ISDN and B-ISDN. We demonstrate the scenario using existing multimedia software over the NYNET (A experimental ATM based network across the NY state). I am responsible for designing the gateway for this purpose.

4. **Research on Education On Demand System (From Aug. 1993 to July 1994)**

   This research is focused on the design of the educational multimedia server over the NYNET, which enables the users on remote personal computers to access the server on demand basis. I was held responsible for designing the communication interface between the multimedia server and clients.

5. **Digital PABX (From Aug. 1991 to June 1992)**

   This is a digital switching system which can be connected to the high speed network such as ISDN. Since this system is driven by digital, all data terminals also can be connected to this system. While developing this system, I participated in designing system architecture and developed all peripheral boards. This project had been carried out with American company called AIM Inc. located in Connecticut , U.S.A.

6. **ISDN TA (Terminal Adaptor) (From May 1990 to July 1991)**

   This adaptor enables the non-ISDN terminals to be connected to the ISDN network. I developed both standalone-type TA and card-type TA which can be installed inside of personal computer. In this project, I was held responsible for developing communication software. While developing this system, I was also involved in developing ISDN telephone.

7. **Text mail system (From Nov. 1989 to April 1990)**

   This system is used for maintaining text mail. All terminals that access this system will use several communication protocol such as Kermit , Xmodem , CCITT recommended protocol etc. I was held responsible for developing communication software for this system and terminal.

8. **Telewriting system (From June 1988 to Oct. 1989)**

   This system can transmit handwritten information to other telewriting system while talking over the telephone each other. Since the voice and data can be transmitted over the telephone line at the same time, this terminal can be used for educational purpose and for deaf people who can not speak over the phone. This terminal is also defined in CCITT recommendation and I was held responsible for developing communication software and image coding software of hand-written information.

9. **PC communication adaptor (From Dec. 1987 to May 1988)**

   This is an adaptor which can be installed inside of personal computer and used for communicating among the terminals with same protocol. The protocol is also defined in CCITT recommendation. I was held responsible for developing communication software according to the recommendation.

10. **Teletex system (From Dec. 1986 to Nov. 1987)**

    Telecommunication terminal which can be used to transmit documents in Open System Networking Environment. This terminal is described in CCITT recommendation. I was held responsible for developing communication protocol software and ported operating system (CCPM) in this system.

Computer Skills

- **Languages**
  C , C++ , Java, C*, PASCAL , PL/I , FORTRAN , LISP , Assembly Languages , HTML
- **Systems**
  IBM-PC running MS-DOS/Windows (NT/Window 95) , VAX running UNIX , SUN SPARC stations (SUN OS 4.1.3, Solaris), IBM RS6000 workstation (AIX), DEC Alpha workstation, Parallel Machines (TMC-CM5, IBM-SP1, nCUBE/2)
- **Microprocessors**
  I80X86 , MC680X0 , MC68302 , Z80 , H64180 , M6305 , I8051

Publications

1. "A High Performance Message Passing System for Network of Workstations", *The Journal of Supercomputing, 1997*
2. "I/O and Memory Efficient Matrix Multiplication with User Controllable Parallel I/O", *International Conference on Parallel and Distributed Systems (ICPADS'97), 1997*
3. "An Efficient Multithreaded Message Passing Tool for ATM-based Distributed Computing Environments", *Ninth International Conference on Parallel and Distributed Computing Systems (PDCS'96), 1996*
4. "NYNET Communication System (NCS): A Multithreaded Message Passing Tool over ATM Network", *Fifth IEEE International Symposium on High Performance Distributed Computing*

(HPDC-5), 1996

5. "An ATM Distributed Computing Laboratory", *Sixth Annual Dual-Use Technologies and Applications Conference, 1996*
6. "Interworking ISDN and ATM", *Communication Systems Design, August, 1995*
7. "Designing an ISDN-ATM Gateway", *International Conference on Computer Applications in Industry and Engineering, 1995*
8. "ISDN: An Efficient Network Technology to Deliver Information Services", *International Conference on Computer Applications in Industry and Engineering, 1995*
9. "Software Tool Evaluation Methodology", *International Conference on Distributed Computing Systems (ICDCS'94), 1994*
10. "A Concurrent Multi Target Tracker: Benchmarking and Portability", *International Conference on Parallel Processing (ICPP'94), 1994*

Technical Reports

1. "ISDN Terminal Adapter" GoldStar Technical Report , 1992
2. "Telewriting for ISDN network" GoldStar Technical Report , 1990
3. "PC communication adapter" GoldStar Technical Report , 1989
4. "Teletex Terminal" GoldStar Technical Report , 1988

Activities

From 1988 to 1992 , I was a member of CCITT domestic study group 8.

References

Available on request

Sung-Yong Park, Northeast Parallel Architectures Center, sypark@npac.syr.edu