

Q3 SOC Seminar Announcement

Three very interesting subjects:

1. **"IP Telecommunication In Networks Convergence to All-IP System"**
by Dr. Sheng-Lin Chou (周勝鄰), Director, CCL/ITRI
2. **"Mobile DTV"**
by Dr. Yung-Hua Hung (洪永華), Manager, CCL/ITRI
3. **"Introductions to STC/ITRI and PAC Project"**
by Dr. David Chang (張志偉), Deputy General Director, STC/ITRI

Host: SIG-SOC NATEA and ITRI
Time: Monday, October 4, 2004, 6:00 - 9:00 pm
6:00 pm - Registration/Networking
6:30 pm - Program start
Place: Community Room, Milpitas Library
40 North Milpitas Boulevard
Milpitas, CA 95035-4495
Phone: (408) 262-1171
Admission: Free

Please find abstracts and speaker bios in the following pages.

Or, go to WWW.NATEA.ORG for more information.

1. IP Telecommunication In Networks Convergence to All-IP System

by Dr. Sheng-Lin Chou (周勝鄰)

Outlines

1. Recent Progress of VoIP Technologies
2. From VoIP to IP Telecommunication System
3. VoIP in Cellular/WLAN Integration
4. IP Telecomm and All-IP Networking
5. Concluding Remarks
6. IP Telecomm Industry in Taiwan (Optional)

Abstract

The IP telecommunication, a new era mainly built on voice over IP (VoIP) technology, recently has successfully recaptured market's recognition and re-boomed from the past 3-to-5 years depression. In last several years, new supplementary technologies, like SIP, MEGACO/H.248, and SS7 over IP, have been developed and successfully become as the successor of H.323 for building the new IP telecommunication system. SIP has been well recognized and became one of the most critical technologies for building the IP telecommunication to provide real-time IP multimedia communication services, like VoIP, video conference, presence, instant messaging, on-line gaming, ...etc. It was even adopted as the base for building the all-IP based IP multimedia subsystem (IMS) in 3GPP UMTS wireless communication system. Besides the technology evolution, what's more important is that the major playground for applications of these kinds of technologies has changed from the PSTN-based voice network to IP-based data network, although the convergence of these two kinds of networks is still expected. The Internet service providers (ISPs), many of them are aggressively to install such a new system to extend their business from data to voice services, will dominate the progress of the IP telecommunication service industry. Another clue reflecting the same changing is the booming of pure IP-based enterprise telephony system application, which may compose of the IP-PBX and WLAN networking, to replace the gateway-based toll-bypass application.

IP telecommunication system is now being developed for deploying to different kinds of IP networks, including the Internet, public wireless LAN, the intranet of an enterprise, home network, 2.5G wireless data network like GPRS, and the combinations of these networks. Prior to the realization of all-IP based IP multimedia subsystem defined in 3GPP R4/R5 systems, some of the IP telecommunication services, like push to talk, and presence and instant messaging, are being considered as the killer applications for the integration of cellular and WLAN networks, which is considered as the supplementary or the competitor of the 3G system. The convergence from the legacy circuit switch networks, like PSTN, to all-IP system will always be the key issue, and it seems most likely going to be driven by ISPs. Advanced unified numbering mechanism, ENUM, for enabling IP-based multimedia communication in the convergence of networks is now being co-promoted by ITU-T and IETF. It will be one of the critical enabling technologies driving the network convergence to all-IP system. The IP telecommunication system, and its associated novel communication services, will play the key role in driving the networks convergence to all-IP system.

Speaker Bio

Dr. Sheng-Lin Chou is the Director of IP Network Technology Division at Computer and Communication Research Laboratories, Industrial Technology Research Institute (CCL/ITRI). Dr.

Chou has joined ITRI for more than 19 years, during which he involved many research projects, including computer networking, image processing and pattern recognition, character and speech recognition, telecommunication software system, computer telephony integration, VoIP/IP-telecomm system, and wireless core network system. In recent past few years, he was responsible for Intelligent Network (IN) system, computer telephony integration system, and GPRS core network system, including SGSN, GGSN and HLR, developments. Currently he is leading teams to develop softswitch and SIP-based Telephony system, OSA based mobile Internet service platform and 3G all-IP core network systems. Dr. Chou was honored as one of Ten Outstanding Information Person (十大傑出資訊人才) of Republic of China in 1998 and was elected as one of Ten Distinguished Engineers (十大傑出工程師) by Chinese Institute of Engineers in 2002. He received his B.S.E.E. degree from Nation Tsing-Hua University in 1980, his M.S. and Ph.D. degrees, both in computer engineering, from National Chiao-Tung University in 1982 and 1992, respectively. He is a Phi-Tau-Phi and IEEE members. Dr. Chou was an Adjunct Associate Professor of ME and CSIE Departments of National Chiao-Tung University from 1992 to 2000.

2. Mobile DTV

by Dr. Yung-Hua Hung (洪永華)

Abstract

In this talk the speaker will cover

1. Overview of Digital TV transition
2. Trend of Terrestrial DTV: From fixed reception to handheld reception

Speaker Bio

Yung-Hua Hung, Ph.D.

Manager, Transmission Technology Department, Digital Video & Optical Communications Technologies Division,
Computer & Communications Research Laboratories, Industrial Technology Research Institute

Dr. Yung-Hua Hung currently is manager of Transmission Technology Department, Digital Video & Optical Communications Technologies Division in CCL/ITRI, where he is responsible for development of DTV demodulator & channel decoder IC technologies. He has developed a number of ICs, including Bluetooth base-band transceiver, ATSC/8VSB demodulator & FEC, DVB-S/QPSK demodulator & FEC, DSP processor.

Dr. Hung received his Ph.D. degree in Electrical Engineering from University of Southern California. His research interests include digital TV, digital communication, multimedia, and VLSI.

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3. Introductions to STC/ITRI and PAC Project

by Dr. David Chih-Wei Chang (張志偉)

Abstract

In this talk, the speaker will introduce

1. SoC Technology Center/ITRI, and
2. PAC (Parallel Architecture Core) project which includes DSP Processors and Media-processors for Portable Media Players and smart phones.

Speaker Bio

David C. W. Chang, Ph.D.

Deputy General Director, SoC Technology Center, Industrial Technology Research Institute

Dr. David Chih-Wei Chang currently is a deputy general director of SoC Technology Center in Industrial Technology Research Institute. From 2002 to 2003, he was Vice President of Arcadia Design Systems, where he worked on JPEG2000 image device and ARM-based SOC platform. From 1999 to 2002, he was Vice President of Engineering and was responsible for the VoIP Network Processors development at EmpowerTel Networks. From 1997 to 1999, he was Director of Engineering of Desktop Graphics and Integration Graphics (with VIA, ALI) at Trident Microsystems. From 1991 to 1997, he was a Sr. Manager at Fujitsu/HAL Computer Systems, where he worked on SPARC 64-bit 4-way super-scalar, speculative out-of-order execution microprocessors. From 1988 to 1991, he was a Sr. Staff Engineer at Siemens/Pyramid Technology, where he worked on RISC-based multiprocessor design. From 1985 to 1988, he was a Design Engineer at Citicorp/Quotron, designing tightly-coupled multiprocessors.

Dr. Chang received his Ph.D. degree in Electrical Engineering from the University of Southern California. He was a part-time professor in the Dept. of Electrical Engineering at the San Jose State University. He holds four US patents and has published more than twenty technical papers in VLSI/computer/networking areas. David was a Board of Director and vice chairman of CASPA (Chinese American Semiconductor Professional Association). He is a Sr. Member of IEEE. His research interests include computer architecture, multimedia, telecommunication/networking, and VLSI/CAD.

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