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EXPERIENCE

January 2001 - Present

Owner of an Authorized Oi service provider cellular store, consulting local small companies on wireless phones and network aspects, service and repair of cellular phones.

January 1998 - January 2001

Principal Staff Engineer, Motorola Network Architecture and Technology, Arlington Hgts. IL 60004

Fixed VOIP & Mobile VOIP Wireless Network Architecture:

Headed an Exploratory group to defined and test the prove of concept for Motorola's next generation IP Wireless Network. Filed one patent on hard hand-offs between the MSC switch and a Class 5 wireline switch. Filed two disclosures on AIN and HLR service interworking for LNP and Fixed wireless Roaming. Provided input and worked with Motorola's network requirements teams on the next generation Wireless Network Architecture.

VOIP and Wireless IP Standards:

First to propose VOIP and IP mobility work to the European Telecommunications Standards Institute (ETSI) TIPHON. My contribution was the first in TIPHON to suggest BTS's on an IP network. TIPHON has since started a new Wireless working group, and I was asked to be the an official Rapporteur in TIPHON's new wireless working group. I coordinate Motorola standards and work with the UMTS, WAP, ITU-SG16, TR45.5 and IETF to provide contributions to TIPHON.

July 1994 - January 1998

Manager Level 7, NORTEL (Bell-Northern Research), Department C850-1, AIN Services and Network Architecture, RTP, North Carolina, 27513.

Network Architecture Designer:

Defining AIN services on the ServiceBuilder platform which supports NT's: SMS; SCP; IP and SCE. Also worked on IN+1 services for Sprint which uses a DMS-250 switch to provide a network interface for calling card toll fraud protection using LIDB and Voice Verification. Services. I have provide and define concepts for: Integrated Voice Dialing with PCS; Toll Fraud Protection with Voice Verification and PCS cloning protection with Voice Verification. Worked with MCI to define Local Number Portability Service for their MCI Metro Switch. Also worked with MTX IS-41C and GSM 09.02 protocols to provide a SCP/HLR with integrated AIN services.

January 1989 - 1993

Senior MTS, NYNEX, Science and Technology Department, Integrated System Lab, ISDN & SS7 Feature Group, White Plains, New York, 10064.

System Engineering:

For ISL I was responsible for Switch Network Architecture and Service implementation. Worked on Mobile VoiceDialingSM and Calling Card Fraud Protection using Voice Verification Technology. Responsibilities included work and project scheduling. Provided consulting to Tandem Computer corp. in reference to their work effort on the SCP and the DMS 100/200 NYNEX NSDC Lab trial. Evaluated third party vendor proposals which dealt with SS7/ISDN feature Interworking. Provide input to Bellcore's AIN 0.0, 0.1 and 0.2.

Patents Filed With NYNEX:

I Designed and Patented both in the U.S. and Canada the Network Facilities Access (NFA) network interface, which is the backbone network architecture for VoiceDialingSM and all of S&Ts Intelligent Peripheral services. In January, 1991 I was granted a Patent from the United States Patent and Trade mark Office. The Patent relates to a technique which provides emergency back-up power and signaling to a ISDN CPE via tip and ring leads. In addition, the customer's power is tapped to provide sealing current while simultaneously charging a back-up battery at the central office. Received New York Telephone Presidents 1992 Award Of Excellence for Outstanding Technical Achievement.

January 1988 - January 1989

MSS, Bell-Northern Research, Department 21322, DMS 100/200, ML-1,
Meridian Customer Defined Networking (MCDN), ISDN & CCS7 Feature Group,
Richardson Texas, 75081.

Network Planning and Design:

Worked on CCS7 ISUP/TCAP and ISDN Q.931/Q.932 PRA Interworking Protocol design implementations for Network-Wide services. The following are a list of MCDN features and specification that I had written for BNR, which were delivered as NTI products. The Protocol Design Documents are indicated with a hyphen (-) followed by a short description:

- MCDN CCS7/PRA Interworking For Basic Call

This Protocol Design Document defines the call control signaling for PRA Q.931/CCS7 ISUP message interworking which is used with PBX-CO, PBX-PBX and CO to Gateway applications.

- MCDN CCS7/PRA Interworking For Call Redirection Services

This Protocol Design Document covers Call Forwarding, Call Transfer and Call Pick-up on a Network Wide basis using Q.931/Q.932 and ISUP/TCAP message set.

- MCDN CCS7/PRA Network Attendant Services

This Protocol Design Document Covers Network Attendant Busy Verification, Network Attendant Campon, Network Attendant Flash Recall and Attendant Control on a Network Wide basis using both Q.931/Q.932 and ISUP Protocols which included Remote Operation Service Elements (ROSE) procedures.

Technical References Written:

- BNR PRA - AT&T 5ESS PRI 5E4 generic program Protocol Comparison
- BNR PRA - AT&T 5ESS PRI 5E5 generic program Protocol Comparison
- BNR PRA - SIEMENS D-Channel Protocol (CorNet Protocol)
- BNR PRA - Bellcore ISDN Primary Rate Interface

Travel regularly to Canada and California in behalf of BNR to present technical and/or Implementation issues involving services and features that use ISDN. Received an Award Of Excellence from Outstanding Technical Achievement.

January 1986 - January 1988

Test Engineer, AT&T Bell Labs, Department 55622, 5ESS Switch Exchange Applications, ISDN BRCS Feature Group, Naperville, ILL. 60566.

Software Development:

Worked on X.25 LAPB and Q.921 LAPD packet switching Protocols. Also worked on Multiple CPE End Point initialization for AT&T ISDN BRI. Wrote code for a ISDN CPE simulator the software allowed Multiple CPEs up to 8 terminals connected to one protocol handler. The work Involved knowing Layer 2 and Layer 3 packets with Call Control Procedures Q.931 messages, Packet Communication Procedures X.25 and Management Procedures using Q.932 messages. Responsible for enhancements for Layer 2 LAPD Network Protocol Handles applications such as, TEI audits and dynamic BRI switch assignment.

Call Completion:

Responsible for the 5ESS database used in the ETN network. Initiated feature-rich call stability runs using a programmable call generator. Specified Network lay out which involved setting up translations on the switch for line to line, line to trunk and trunk to line call setups. Trouble shoot call processing code problems by testing in the lab provided solutions and did follow-up testing. The features implemented were Automatic Route Selection, Individual Dialing Plan, Intercom, Call Forwarding, Call Pick-up, Private Facilities Access and Authorization code dialing. Wrote the official translation files that were used for all stability runs done on the 5ESS 5E3 generic expectancies testing. Received from AT&T two Extra ordinary Contribution Awards one for work I did in the Call Completion team, and another for the concepts I introduced for the ISDN Multiple-drop BRI configurations.

February 1983 - January 1986

System Lab Manager, GTE Communication Systems, Phoenix, AZ. 85016

Responsible for the GTD5AX digital switch new hardware and software implementations. Also designed lab configuration for central office application and testing. Supervised installation of frames and verified full operation of the different interface such as, Administrative Module, Communication Module and Switching Modules. Developed an interface to the GTD5AX switch with a IBM PC to run periodic maintenance on the GTD5AX.

June 1980 - June 1981

Senior Technical Associate, AT&T Bell Labs, Murray Hill, New Jersey

Responsible for IC Lab equipment setup and testing. Hands on training with Electronic equipment and trouble shooting boards to component level.

EDUCATION

June 1981 - June 1983

The City University of New York (CUNY) School of Engineering, Manhattan, New York.

Four years Bachelor Of Science program in engineering with individual specialization in digital, Electro-mechanical and electronic circuits design. Graduated January 1983 Cum Laude with a GPA 3.5

February 1978 - June 1980

Queensborough Community College, Bayside, New York

Two years Associate Degree In Applied Science in Electronics graduated In June 1980 with a GPA 3.14

MILITARY SERVICE

June 1974 - January 1978

United States Air Force

Aircraft Technician on the F-4 jet fighter performed diagnostics in electric systems, trouble shoot and fixed problems was awarded the National Defense Medal.

PERSONAL

Willing to relocate, speak Portuguese, English and Spanish.

UNITED STATES PATENTS

1. *Title:* Backup power supply at subscriber terminal, Jan. 8, 1991, Patent Number: **4984267**
2. *Title:* Apparatus and accompanying methods for preventing toll fraud through use of centralized caller voice verification, Mar. 26, 1996, Patent Number: **5502759**
3. *Title:* Electronic switch connected to intelligent peripheral while permitting call processing of dialed digits, Jul. 21, 1998, Patent Number: **5784437**
4. *Title:* Enhanced efficient telephone number portability, Feb. 2, 1999, Patent Number: **5867569**
5. *Title:* Directory number portability in telephone networks, Feb. 2, 1999, Patent Number: **5867570**
6. *Title:* Redirection of calls to ported directory numbers in telephone networks, Mar. 9, 1999, Patent Number: **5881145**
7. *Title:* Method and system for extending the directory number of a terminal, Jul. 25, 2000, Patent Number: **6094478**
8. *Title:* Intelligent network with alternate routing of signaling messages, and method of operating such network, Oct. 24, 2000, Patent Number: **6137806**
9. *Title:* Method and apparatus for routing emergency services calls in an intelligent network, Dec. 18, 2001, Patent Number: **US 6332022 B1**
10. *Title:* Geographically distributed telephony, Jun. 25, 2002, Patent Number: **US 6411703 B1**
11. *Title:* Method and apparatus for routing emergency services calls in an intelligent network, Apr. 13, 2004, Patent Number: **US 6721395 B2**

To see Patents: <http://patft.uspto.gov/netahtml/PTO/srchnum.htm>