RÉSUMÉ MARC BAGE, Ph.D., ing.

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Overview

- 21 years of industrial and academic research and development (R&D) in telecommunications, specifically in optical and wireless networking, in telehealth and in video
- 18 years of telecom consulting
- Strategic planner in telecommunications based on evolving business needs: needs analysis, architecture, network planning and design, preparation of specifications, request for proposals (RFI, RFP), bid analysis, negotiations with vendors, selection of products and services, due diligence
- Director of product development in optics and in telecom applications (video, telehealth)
- Network architect specialized in optical technologies (SONET, Gigabit Ethernet, WDM, optical amplifier, etc.), broadband networks (IP, ATM, MPLS, Digital Cross-Connect, etc.) and video communications applications (MPEGx, H.26x, H32x)
- Project manager and Personnel manager
- Invited Expert at the European Commission (ACTS and IST Programs) and at CANARIE (Directed Research, Leading Edge Applications) to evaluate research proposals and to audit R&D projects

Forces

- Ability to meet the objectives either as project manager or as technolgy specialist
- Ability to bridge the gap between technology specialists and business people in order to optimize their synergy thanks to an efficient combination of expertise in technology, management and consulting
- Broad spectrum of technological knowledge
- Excellent communications in French and in English on technical, commercial and financial matters

Carrer and achievements

1994 - 2000 / 2002 - 2004 / 2008 giga.Com inc. President

- Provided independent telecom consulting services in Canada, in Mexico and at the European Commission during10 years. Expert in telecommunications technology and reliable manager
- Planned, architected and designed a number of broadband access networks, including the selection of digital transmission equipment SONET-SDH-DWDM (Competitive Access Provider, Cable Operator). Impact on business plans
- Managed the Hyperchip technology showcase at RISQ: drafted the contract, prepared the request for funding, coordinated the installation and the support during demonstrations to foreign customers
- Architected high performance networks (IP, ATM, MPLS, POS, Gigabit Ethernet, WDM, optical amplification, dark fiber) (research networks and cable networks)
- Architected the telecommunications infrastructure and selected the technologies for remote meter readings in a power utility environment
- Developed practical design rules for the deployment of SONET rings
- Managed a team of 4 engineers throughout the planning and optimization of a Mexican banking network in preparation for the emerging competition from foreign credit card companies. Duration : 5 weeks
- Assessed research proposals and audited projects in the broadband ATM networking programs « Advanced Communications Technologies and Services (ACTS) » and « Information Society Technology (IST) » of the European Commission in Brussels (1995 to 2002)
- Assessed research proposals for CANARIE's Directed Research Program in user-managed lightpaths based on Grid Computing and Open Grid Service Architecture technologies
- Advised a number of start-up companies and the Caisse de dépôt et de placement du Québec on technical matters (due diligence)

2004 -2008 International Institute of Telecommunications-Research (IIT-R) Researcher

- Managed the development of telehealth applications based on wireless communications (3G, WCDMA, CDMA2000, WiFi)
- Coordinated the development of telehealth wireless prototypes (vital sign transmission, ECG, video and control between an ambulance and a hospital; biomedical monitoring of mobile patients and interactions with various external actors)
- Surveyed the telehealth market. Prepared use cases. Negotiated with providers of telehealth technologies. Solicited technology and medical partners
- Coordinated the team of 10 researchers and managed the relations with the Scientific Committee (quarterly meetings, agendas, minutes, progress reports) and on-going follow-ups. Set up a sponsoring program. Reported to funding agencies. Participated in recruitment and performance management. Set up a wireless telehealth showcase
- Initiated and set up on-line wireless demonstrations at ITU Telecom World 2006 in Hong Kong using international research networks
- Elaborated and negotiated international projects (Beijing) for wireless telehealth research. Applied for Federal and Provincial grants
- Tested the interoperability of a 3G phone and a softphone by means of a H.324m gateway
- Conducted research on various wireless topics, e.g. mobile IP and radiolocation

2000 - 2001 VIPswitch Director, Optics

- Was Director responsible for all optical aspects of the terabit router
- Managed the Optics team : recruiting (2 engineers), management of the performance, compensation and training
- Planned the efforts of the Optics team in coordination with the other development teams. Followed up and assessed progress. Took corrective actions as required
- On schedule, selected and tested in laboratory the optical components for the broadband interfaces (1 GE, 10 GE, OC-48 et OC-192). Negotiated and managed the relations with the selected vendors
- Participated in multiple due diligence activities in support of the capital raising activities
- Set up the optics laboratory (prioritization of needs, budget, acquisition). Assumed the responsibility of laser safety officer
- Initiated and launched two new projects : « Optical Add/Drop Multiplexing » and « Optical Backplane», in particular with regard to their integration with the packet processing, queuing and switching modules
- Drafted the roadmap towards optical switching (technology watch)
- Took part in a patent application in the area of fiber to the home (FTTH)
- Represented VIPswitch at OIF, ODSI and the Montreal Photonic Network
- Initiated and delivered an in-house training on optical communications

1993 -1994 ABL Canada Inc. Scientific Director

- Directed the development of multimedia application and architected networking solutions
- Directed the development of the videoconference application based on PCs and H.261: 6 developers, recruiting, prioritization of functionalities in order to meet the delivery schedule, progress assessment, follow-up and corrective actions as required
- Responded to various requests for proposals involving SONET multiplexers, video switches and broadcast-quality codecs for various operators as well as Fiber To The Home for Telstra, Melbourne, Australia

1984 -1993 DMR Group Consultant then Associate Director

- Developed the strategy to ensure the perenniality of the telecom consulting practice in Montreal
- Won multiple telecom consulting contracts, either through direct business development or else through support to account managers

- Managed a project to prepare a 4-M$ winning proposal for an integration project aimed at the development and turn-key delivery of a radio dispatching system for Motorola. Conducted financial and contractual negotiations with Motorola and multiple hardware and software vendors
- Was chief engineer of the feasibility study and the requests for proposals for an integrated and reliable network based on OSI standards in replacement of the 15 separate networks of the Quebec government (RICIB). Matrix management of 6 engineers. Duration 9 months
- Was chief engineer of the wiring strategy and recommendations regarding standards and processes applicable to the buildings of the Quebec government. Matrix management of 4 engineers
- Was responsible for the Telecom section of the syndicated study conducted for some hundred clients on the theme «Integration of voice, data and image»
- Prepared various telecommunication strategic plans (voice and data) following the merger of multiples companies in the financial and insurance sectors

1983 -1984 INRS-Télécommunications Invited Professor

- Conducted research on Vector Quantization for video applications
- Delivered the Master-level course « Transmission Systems »

1977 -1983 Bell-Northern Research (BNR) Member of scientific personnel

- Planned technically and financially the introduction of optical fibers in the metropolitan network of Bell Canada : quantitative assessment of the market and corresponding technological solutions (FD-2)
- Developed a model to predict the performance of optical fibers and of splices
- Was granted the **Patent** "Method and Apparatus for Optical Fiber Fault Location", CAN 1145927 May 1983; USA 4397551, Aug.1983

1975 –1976 IREQ Industrial postdoctorand

- Architected and designed a SCADA system for electrical power stations based on the then-emerging technology of optical fibers
- Designed a token-based protocol for distributed multiple access

Education

- WiMAX course, IIT-R, 2008
- Executive Development course, McGill University, Montreal, 1999
- Ph.D., Electrical Engineering, University of British Colombia (UBC), Vancouver, 1975
  - Specialty: Optical signal processing and holographic patter recognition
  - Thesis : "Coherent Lensless Matched Filter and an Application to Feature Extraction in Character Recognition"
- M.Sc., Electrical Engineering, Laval University, Quebec City, 1971
  - Thesis : "Adaptive Sampling and Speech Bandwidth Compression"
- Bachelor, Applied Sciences (Electronics Engineering), Université catholique de Louvain, Belgium, 1969

Associations

- Member of the Order of Quebec Engineers (OIQ)
- Senior member of the Institute of Electrical and Electronics Engineers (IEEE)
- Member of the Technical Program Committee of the IASTED Telehealth 2008 conference
- Held various positions within professional associations : President of the Canadian ISDN Interest Group; Vice President of the Canadian Telecommunications Consultants Association (CTCA) and of the Canadian Telematics Forum
- Held various positions within philantropic associations

References and other information

A list of references as well as a list of publications and of lectures are available upon request.