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### **Objective**

To contribute my acquired knowledge of software design and development, my analytical skills, and my leadership and communication abilities to help deliver a competitive, first rate, software product.

### **Value I can provide**

- Strong knowledge of software design and architecture, acquired over twelve years experience in the telecommunications industry, eight of them as a senior designer and architect in optical and telephony software.
- Proven creative problem solving ability. For example:
  - significantly simplified other people's designs, to keep projects on track in the face of staffing problem.
  - co-authored a US patent for the signaling method now used by Nortel VoIP products.
  - very strong capability to understand and mentally visualize large complex dynamic systems.
- Proven excellence in communication skills, demonstrated by
  - writing clear specifications,
  - teaching concepts, requirements, and high level design to software designers,
  - leading many whiteboard brainstorming sessions.
- Experienced in team leading complex software projects in multi-team and multi-site environments, resolving issues and keeping schedule on track.
- Knowledge and understanding of customer needs (e.g. need for a simple intuitive user interface) acquired through:
  - recent experience in optical amplifiers, and
  - in previous role of AIN architect (in DMS), where I interacted directly with customers.

**Summary of experience:**

- Twelve years experience in embedded real-time software development in the areas of optical amplifier systems and telephony call processing. These include:
  - manager of software design team (1 year).
  - architect (both in optical and DMS products) or design leader of multi-team, multi-site development project, responsible for design estimates, software architecture, design approvals (3 years).
  - design team leader responsible for schedule and quality of software delivery (3 years).
  - programming and designer testing.
  - writing clear documentation including: software requirements specifications, design documents, and user guide information.
- network engineering (1 year): ATM, IP, VOIP networks, during which time I co-authored a US patent for a signaling method, now used in Nortel's VoIP products.
- Twelve years experience as a teacher of English and art—in community college and high school, in and around Kingston, Ontario.

**Education**

M.Sc., Computing Science, Queen's University, Kingston

B.Ed., Queen's University. (Current member of Ontario College of Teachers)

B.A.Hon., (English), Queen's University

**Work History, Nortel Networks**

*Optical Networks (Mosaic LH1600, and Equinox products)* *2000 – 2002*

Optimization/Equalization software collects data and performs optimization algorithms to control optical amplifiers and transmitters across a DWDM (i.e. many wavelengths) long-haul optical fibre.

Team leader, design manager, Optimization S/W Architect, 2000 – 2002

- Team Leader of “optimization software” for two successful software releases of Nortel's world-leading Mosaic long haul optical amplifier systems.
- Interfaced with Systems Team (i.e. optical physicists) to review and approve and accept current and future system requirements.
- Documented software requirements.
- Prepared and documented high level designs, taking into account present and future requirements.

- Prepared estimates of software development efforts and lab requirements for senior management.
- Interfaced with numerous other software teams in Ottawa, Montreal, and UK, to communicate software dependencies and negotiate completion dates.
- Communicated requirements, algorithms, high level design, and scheduling commitments to design team.
- Reviewed and approved detailed designs.
- Programmed in C, performed designer testing.
- Worked with project management team to track checkpoints and facilitate tasks on critical path.
- Allocated staff and evaluated work of designers.

#### Additional Achievements

- I gained extensive knowledge of optical systems behaviour, and more than once was able to recommend improvements to the wavelength optimization procedures proposed by the optical physicists.
- More than once I recommended significant design simplifications, preventing a scheduling slippage of weeks, while holding functionality loss to an acceptable level.
- Provided high level designs that significantly improved efficiency of comms use, enabling fibre capacity to double to 160 wavelengths without slowing down equalization time in Mosaic LH1600 product.

#### ***Telephony Call Processing***

***1990 – 2000***

Advanced Intelligent Network (AIN) is a signaling protocol which enables an offboard processor to provide flexible services by controlling voice calls. This capability is implemented in the telephone switch by complex AIN software, which can force a call to skip, repeat, jump forward, or jump backwards through all the call processing steps such as digit collection, translation, routing and connection.

#### Architect, AIN software

1999 – 2000

- Approved all high level designs within AIN team of 60+ designers in Ottawa and India.
- Approved all high level external designs that wished to affect or reuse AIN software, submitted by teams in Montreal, US, UK, Australia, and India.
- Provided design cost estimates to Product Line Management.
- Participated in customer meetings as technical expert (Bell Canada, Bell Atlantic, Bell South)

- Interfaced with architects in UK and US to coordinate multi-site and multi-product design interactions.
- Provided expert consultation on call processing software to AIN design team.
- Supervised architecture of several hundred thousand lines of code.

#### Team Leader, AIN software

- Overall team leader and technical leader for multi-team, multi-site project, whose purpose was to develop several new advanced AIN services which required adapting all AIN software to a new, simultaneously developed, OO platform. Responsibilities included authoring architecture document, chairing weekly videoconferences, approving high level designs, coordinating interdependencies, providing design consultations to teams in Ottawa and RTP (North Carolina), tracking progress and solving issues, and making staffing recommendations to management. Towards the end, I provided code-level advice and solutions to designers for over fifty issues in legacy code that were revealed when the new platform was activated.
- Before that, in early 1997, as team leader of a five person team, in 6.5 months I drove and achieved on-time delivery of a complex software feature that was already 4.5 months behind schedule when I took it over.

#### Network Designer (Network Engineering Division)

1995 – 1996

- Co-authored (with my manager) proposals for switch architecture and network architecture which eventually were the basis for Nortel's "Succession" VoIP product.
- Co-Authored (with my manager) US Patent, "A Method of Signaling", which is basis of signaling now used by Nortel Succession VoIP product to set up virtual VoIP calls.

#### Designer, AIN and ISDN software

1990 – 1995

- Designed, coded, tested and documented major telephony features, and resolved defects on the DMS100 switching public network.
- Both procedural and Object Oriented design.
- DMS Languages: Protel, Pascal, Smalltalk and Protel2 (an OO language).

#### **Employment History previous to Nortel**

1975 – 1987

- 12 years of successful teaching of English and art, in high schools, Queen's University and St. Lawrence College, Kingston.