

# Neil William Merer Manning Curriculum Vitae

Location : Bournemouth, Dorset, UK

Status : Married with two young sons

Currently : Director & Chief Engineer, Merertech Ltd.

Contact : <u>neil.manning@merertech.co.uk</u>

**Skills Overview** : Experienced in a wide range of Software, Firmware & Hardware platforms. Good working knowledge of a diverse set of tools, technologies, techniques & architectures. Experienced in the areas of specification, design, implementation, testing, maintenance & support of both small & large-scale systems.

#### Education :

O-Levels (1984) : 2 A's, 2 B's, 4 C's & 1 D Tarring (latterly Worthing) High School, Worthing

- A-Levels (1986) : 3 B's (Maths, Physics & Graphical Communication), Worthing Sixth Form College
- Degree Level (1991) : 2:1 MEng/BEng with Hons. Electronics, Communications & Computer Systems Engineering University of Bradford

### Merertech Ltd. (Feb 2008 onwards) : <u>www.merertech.co.uk</u>

Company Director & Chief Engineer. Formed Merertech Ltd. This was principally to formalise a long-standing relationship with one major client. However, it is my aim to use this to broaden my expertise once again across different application areas & technologies.

### **DSP Implementation - Self-Employed** (2004-08) :

Sub-contracted to implement various mainstream & specialised Audio & Speech Codecs on a variety of DSP cores tailored to customer-specific architectural requirements. Customer confidentiality prevents specific DSP cores & algorithms from being revealed. Experience of at least :

- four different DSP manufacturer's products, within-which a variety of DSP families & cores
- ten distinct codecs & algorithms

## Roke Manor Research Ltd. (1991-2004) : www.roke.co.uk

Joined Roke Manor Research (by then wholly owned by Siemens) in 1991.

- TNSS (04) High-level systems analysis & prototype implementation of the Cable & Wireless Transmission Network & Surveillance System. This was carried out using UML modelling tools, C, C++, Java, MySQL & Oracle on DELL high-availability hardware.
- Lawful Intercept (03-04) Real-time protocol analysis of an IP data stream on a RedHat Fedora Linux platform. I was responsible for the design & implementation of Radius, POP3, IMAP, SMTP & Web-mail analysis modules.
- SMIT-Generic (02-04) System Design Authority. This was a purer object-oriented redesign of the earlier SMIT methodology & architecture; i.e. it reused the concepts & experience learned in the UK SMIT but replaced bespoke interfaces & models with open, genericised ones. This was successfully rolled out for Cable & Wireless in the US, delivering many of the key benefits of the UK SMIT but within a significantly different corporate environment. Both UK & US systems then became common above the alarm-feed & correlation levels. Implemented using C & C++ on Debian Linux, using DELL high-availability hardware, X11 & Web-based clients with an additional Java client front end. The product introduced standardised XML-based inter-process communications.
- SMIT (96-04) Service Management Integration Platform System Design Authority. Real-time network monitoring, correlation & customer impact analysis of alarms from Cable & Wireless's UK & International networks.

SMIT was a highly efficient, geographically diverse, resilient (Main & multiple Standby) platform that concurrently monitored & managed alarms & fault tickets for upwards of 1.5 million network elements. The elements ranged from sub-64kbit up to 40Gbit systems from multiple vendors supporting multiple protocols & technologies; PDH, SDH, WDM & DWDM as well as several legacy POTS & vendor specific technologies.

It was implemented using C & C++ on Debian Linux, using DELL high-availability hardware, X11 & Webbased clients (using HTML & VML). At its heart it utilised a bespoke in-house scheduler & web-server tools (JS200) for which I was wholly responsible. CORBA interfaces were added later for cross-product extensibility.

SMIT was developed for Cable & Wireless using a highly successful rapid prototyping methodology. It allowed Cable & Wireless to continue to manage their UK & International networks during a time of rapid network growth without the need for additional personnel. It reduced average fault to problem diagnosis & fault logging times from many hours to minutes. It also enabled customer fault reporting to become pro-active rather than reactive. Some customers were even given direct access to filtered SMIT Web-Interfaces for real-time monitoring of network problems directly affecting them.

- **JS100** (95) Design & development of Solaris, Linux & Win32 based demonstrators of more cost-effective platform for multi-node military networks using C & X11.
- SH100 (94-95) Use of OSI NetExpert & Laser-Scan Gothic GIS tools to provide Network Management & Planning applications for in-field deployments of military networks with rapidly changing topologies & rank assignments.
- **GPT-Siemens Q3 management interface for SDH repeater** (93) Analysis & design using internal Roke Manor object-oriented modelling language for implementation in C++.
- **MONET** (92-93) European Collaborative project to develop UMTS signalling protocol simulations using CACI ModSim.
- Various Projects (92) X11-based demonstrator GUI's on SunOS; including GSM, SS7 signalling protocol visualisation & UPT (one person one number) mock-ups. GPT GAIN Intelligent Network service analysis & visualisation.
- **CONES** (91-92) ATM protocol simulation using configurable transputer topologies : OCCAM & Concurrent 'C'. Switched MJPEG video demonstrators over IP & ATM. X11 based control & visualisation software. Use of ANSAware to implement various distributed-system demonstrations over the CONES hardware platform.
- University (1987-1991) : Electronics, Communications & Computer Systems Engineering at Bradford University. Final Year Project - "An X11 Human-Computer Interface for Nursing Wards". Sponsored by Plessey Roke Manor Research, Romsey.
- **Pre-University Experience**: First experiences gained with Sinclair, Atari, Commodore, Sharp & ICL computers. Self-taught Basic, Pascal, C & a variety of processor machine codes; Z80, 6052, 80x86 & 68000. Designed & built add-on interface boards for ZX-Spectrum. Developed & supported both board-level & customer focussed presentations for ICL using ICL's internal illustrator platform; an early Powerpoint-like product.

#### **Other Relevant Experience & Expertise**

Conversant with de-facto standard software packages; Microsoft Word, Excel, Powerpoint, Outlook, Project & their Open-Office equivalents. Utilised a variety of Integrated Development Environments; e.g. Visual Studio & Eclipse. Familiar with Source Code Control environments; SCCS, CVS, Microsoft SourceSafe. System Administration experience on Linux (RedHat & Debian), Solaris & HP-UX. Conversant with a variety of networking technologies, topologies & protocols both in the IT & Telecom's domains. Fluent in a number of implementation langauges (primarily C, C++ & Java; but also a variety of others). Familiar with various scripting languages (Perl, CSH, BSH, BASH; but also many others). Experience with and implementation of various web-based technologies (HTTP, HTML, CSS, Flash, etc.).