

Andy Fletcher - November 2008

To contact me email andy@x31.com

Relevant Competencies

- 25 years in radio system design and test engineering, including 20 years with Wide Area Trunked Radio Systems and over 10 years with TETRA systems.
- Developed, tested and integrated complex radio communications systems for various public safety agencies.
- Requirements analysis, system specification, design analysis and rollout support for large systems.
- Extensive conformance and safety testing experience.

Siemens / BAA Heathrow (2008)

- Requirements analysis for large in-building coverage system for a new terminal supporting PMR, Public Safety and UK cellular operators.
- RF analysis and simulation using Cellular Expert (Wireless Valley)
- Evaluation of technologies and system design

Qatar Ministry of Interior / Asian Games Project Experience (2005-2008)

- Requirements analysis for a multi-agency TETRA network for the agencies and the 2006 Asian Games. Request for interest (RFI) production and bid evaluation.
- Detailed design analysis and extensive support to the supplier during the rollout of the network prior to the games and during the later national rollout.
- Radio coverage design with the supplier. Analysis of system resilience, stability and performance.
- Design of Microwave network, analysis of expected performance from first principles. Verification that performance objectives were met in practice.
- Integration and test with C4I systems (AVL and ICCS). Identification of problems and possible solutions.
- Performance analysis of the network through its entire rollout by analysis of Alarms, CDRs and NetACT performance logs. Parsing of raw data and development of Access and MySQL applications to ensure contractual objectives were met.
- Requirements analysis and conceptual design of low energy/VSAT based remote TETRA site using Solar and Wind power.
- Acceptance test specification development, execution and analysis.

Athens 2004 C4I Project Experience (2002 - 2005)

- Performed detailed analysis of the requirements and operational needs of the involved public safety agencies and those of Olympic Games security.
- Developed complete numbering plan and zoning of TETRA resources. Defined interfacing with PABX systems.
- Defined dispatcher configuration for both Motorola and Frequentis systems.
- Constructed and populated the multi agency TETRA System Fleetmapping Database, containing parameters for the infrastructure and all terminals.
- TETRA System Specification, Engineering Change Proposal (ECP) evaluation and engineering recommendations
- TETRA Acceptance Test Specification and Service Level Agreement (SLA) reviews and proposals.

- Provided technical support throughout specification, bid evaluation and later phases of the project, including detailed evaluation of different TETRA infrastructures, terminal equipment and Automatic Vehicle Location (AVL) proposals.

Key Skills and Experience

- A highly versatile practical engineer with 20 years experience in all phases of development of embedded communications equipments, protocol stacks and systems. A strong hardware background has been built upon with embedded software, layered protocols and distributed systems.
- Worked for the Greek and Qatar public safety agencies as a security and communications consultant specialising on the specification, configuration and deployment of TETRA systems for large event (Olympic and Asian Games Security) Worked closely with Public Safety agencies, analysing requirements, creating specifications, Fleetmapping and reviewing test specifications to ensure reliable radio communications in the demanding Olympic environment.
- Has an extremely good understanding of the challenges when developing and deploying 'real time' communications systems and an appreciation of the importance of having an auditable and testable design. This is derived from extensive experience with both digital and analogue radio systems from initial specification through design, test, factory introduction and maintenance phases.
- Extensive experience on the digital radio TETRA system. Developed infrastructure and terminal hardware, protocol stacks and test tools. Large system specification and procurement.
- Worked extensively on UNIX (Solaris, Linux) systems and have performed as system architect on radio systems which transport TETRA encoded speech over IP based infrastructures.
- In addition to TETRA systems I have developed equipment and systems for MPT1327, Cellular Radio and conventional radio systems.
- Have strong personal interests in Linux, Internet standardisation bodies (IETF, W3C) and radio communication systems.

Detailed Experience

- 2008 Siemens / BAA Heathrow
Design of in-building coverage system
- 2005-2008 Boartes Qatar / Qatar Ministry of Interior
Supporting the procurement of a multi-agency TETRA network in time for the 2006 Asian Games. Support during the later national rollout.
- 2004 - 2005
Direct Consultant to the Greek Ministry of Public Order for the Olympic security TETRA radio system.
- 2002 - 2004 Boartes Hellas / ATHENS 2004 - Athens 2004
Olympic Security Planning & Integration Support. Worked on communications (C4I) planning for Olympic Security.
- 2000 - 2002 Simoco Digital Systems Cambridge (UK) / Sepura
TETRA conformance and load test tools. Developed audio transmission plan for TETRA infrastructures.
- 1999 - 2000 Cadence Design Systems Cambridge (UK)
Developed a Digital TV system conformance test suite.
- 1997 - 1999 Simoco Cambridge (UK) Sepura
TETRA infrastructure specification and architectural system design. TETRA Radio Site Hardware specification and controller design. Included environmental protection systems.
- 1992 - 1996 Philips RCS (UK)
Developed wide area MPT1327 based radio trunking systems

- 1989 - 1991 Commtel / Altai Peterborough (UK)
Developed telephone and Satellite receiver equipment.
- 1981 - 1989 Pye Telecommunications Ltd (UK)
Developed Selective calling radio, paging and Cellular equipment. Sponsored student.

Qualifications

- Bachelor of Electrical and Electronic Engineering, 1985 Bradford University (UK)