DR MARK NORRIS

Summary

Mark has 30 years experience in the telecommunications industry. He is an acknowledged expert on fixed networks and a specialist in the design and management of networks and the services they support. Mark has a proven track record of technical, communication and strategic skills allied with an ability to work with and influence others. He has led and contributed to a wide variety of projects across the world. During his time with the UK Telco, BT, Mark led the technical development of the company's Internet and e-Business products. This work is recorded in two BT books – "e-Business Essentials" and "Exploiting the Internet"

As part of the Intercai team in Bahrain which was responsible for analysis of the telecom market and generation of policy, strategy and law for the introduction of competition, Mark has wide exposure to regulatory issues at all levels combined with first-hand experience of practical regulation. In particular, he was the Director of Market Operation for the newly formed regulator in Bahrain and was responsible for the National number plan implementation, the definition of a Reference Interconnect Offer, the introduction of quality of service measurement and many other aspects of technical regulation, such the approval of interconnection practices, regulations on carrier pre-selection and the rules for voice over IP

Mark has subsequently worked on a range of technical and regulatory projects. A significant amount of his work over the last few years has been the development of broadband capability for the UK's development agencies and studies on addressing, routing and numbering issues for the UK telecom regulator, Ofcom. Mark has also worked with a number of regulators across the Middle East. He was responsible for the evaluation of licence bids for the regulatory commission in Saudi Arabia and has developed regulations in Jordan, Oman and the UAE on various aspects of telecommunications.

In addition to his contribution to regulatory projects, Mark has lectured widely on communications technology and regulation. He has recently spoken at several ITU workshops on Interconnection and Price Control and has delivered courses on Service Level Agreements, Next Generation Networking and Project Management in the UK, Europe and Middle East.

Areas of Expertise

Mark's specific areas of expertise are in Telecom technology, network design and regulation. He also has strong background and experience in Application and Operational System design; Project and Technology Management, Bid Support and Technical Auditing and Writing.

Recent Project Experience

- Engaged by three of the regional development authorities in the UK (Yorkshire, East of England and South East England) to assess the state of broadband provision and the availability of network infrastructure. Subsequently carried out similar projects for Bristol City Council, Northampton, Bedfordshire and Kent County Councils

- Technical lead on a feasibility study for the incumbent Greek electricity provider for provision of fibre to the home (FTTH) using the established infrastructure and experience of that provider.

- Project leader for the development a new broadband business for a utility company in Kenya. This entailed the assessment of the potential market along with the company's existing and

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planned assets, the definition of potential products and, subsequently, the design of a core and access network capable of delivering the selected products.

- Lead technical assessor in a due diligence exercise on an incumbent telecom operator. This involved a detailed study of the operator's technical strategy and assets as well as an assessment of their market position in the face of regulatory and competitive pressures. Also recently led due diligence audits on a UK based text to speech software developer, a Bahrain based IPTV provider, a Czech cable operator and a national WiMax operator

- Technical advisor to a Bahrain based operator for a National WiMAX network. This project involved the design of a wireless network capable of delivering a range of voice and data products.

- Engaged by the Jordanian government to advise on e-commerce policy and strategy. This work, carried out between June and December 2007 resulted in a full market and technical framework for e-commerce in Jordan.

- EU advisor to the Macedonian regulator on the development of interconnection policy and implementation. This work also involved the production and delivery of training courses under the US Aid program.

- Project leader for a number of studies for the UK regulator, Ofcom, including a study of Number Portability implementations across Europe, an analysis for the evolution of broadband technology, the regulation of Voice over IP, planning for finer digit analysis on the national telephone network and a systems audit of the incumbent BT in the separation of their access network division. The work on Number Portability was later extended by Ofcom to cover mobile as well as fixed lines.

- Responsible for devising a measurement framework for telecom services in Oman. This work, for the telecom regulator in Oman, involved the production of a quality of service consultation and regulation that covered all current telecom services and that could be adapted to cover future services.

- On behalf of a major finance house, Intercai carried out a detailed audit in a Bahrain based telecom operator. The audit looked at all aspects of the operators business, from their service offerings to the network, management systems and processes that provide them. The results of the audit were used to validate the business plan and to identify areas for attention and investment.

Past Project Experience

- For the European Bank, Mark led a due diligence audit of an emerging communication network provider in Russia. This entailed a study of the suitability the network infrastructure, adequacy of the management systems and development of an evolution plan for the operator's future services

- Advisor to the UK defence authorities on the outsourcing of their communication services, which involved a detailed study of network and service management strategies for a secure environment.

- Audited the network of an established operator based in the Channel Islands and, from their current capability and predicted traffic, developed a technical plan for the upgrade of network capacity and technology.

- Technical advisor to a major UK Ministry of Defence communications network project, responsible for network management.

- Developed and delivered technical sessions of an intensive workshop on interconnection for the ITU Arab and African centres of excellence.

- Responsible for policy on Voice over IP for the Jordan Telecommunication Regulatory Commission (TRC). Produced the consultation and subsequent regulation

- Director of Market Operations in the interim regulatory authority in Bahrain, responsible for national number planning, interconnect between operators, quality of service and any other technical issues in a newly liberalised marketplace.

- Advisor on the development of the Service Level Agreements offered by a Middle Eastern operator. This included the assessment of proposed service and training of the operator's staff.

- Member of design team for European operator, responsible for examining options for and subsequent implementation of voice over IP and wireless internet services

- Technical advisor to the Saudi Arabian telecommunications regulator (CITC) on the liberalisation of their mobile telephony and data markets.

- Key member of the team that delivered the legal and licence aspects of the interconnection regime in Bahrain. Prepared a draft Reference Interconnect Offer (RIO) document that was used as a template for the ultimate production of the RIO by the incumbent. Also responsible for the adjudication of the suitability, or otherwise, of the RIO during its preparation. In addition, prepared the document outlining the regulatory approach to be taken to managing the Quality of Service (QoS) that would be expected of the different licensees in the country.

- Led a successful bid, on behalf of a major network provider, to carry the traffic generated by the UK's academic institutions. This entailed the development of the technical proposal for a very high-speed data transmission network, along with a variety of cost models.

- Solution designer for a major network equipment supplier. Responsible for building a variety of bids to large corporate customers.

- Operations management for a major European network provider. This involved delivery of capacity from a core network and included the management of their end to end connection.

- Development of e-Business services for a major UK bank. In particular, the design and installation of a secure settlement application that was central to the bank's on-line trading system.

- Design of the Operational Support Systems for a large-scale packet network. The project called for the delivery of a solution that integrated systems from a number of vendors. It also required legacy systems owned by an incumbent carrier to be coupled to the new components.

- Asia Pacific Systems Engineering Centre. Set up a new centre, from scratch, linked its output to mainstream operations and built working relationships with local industry.

- Managed a software house with 60+ staff and a £4M budget. Installed development methods (such as SDL and Z) and quality management processes (notably ISO9001) that were applied across a range of projects.

- Developments of technical plan for the extension of a global carrier's data network to include mobile data access, and design of the services to be offered to clients.

- Managed the Corporate IT programme for a major Telco. Responsible for setting up Broadband and Software labs under an applied research and development programme (£16M budget).

Qualifications

Mark holds BSc and PhD degrees in Electronics and Electrical Engineering (University of Glasgow 1976, 1979) and is a Chartered Engineer (Institution of Electrical Engineers).

He is also a Fellow of Institution of Engineering & Technology.

Articles & Papers

Mark has written over 20 technical books. These include:

Gigabit Ethernet technology and applications, Artech House 2003,
Mobile IP for M-Business, Artech House 2001,
Communications Technology Explained, John Wiley & Sons 2000,
e-Business Essentials, John Wiley & Sons, 2000,
Designing the Total Area Network, John Wiley & Sons 1999,
Component Based Network Systems Engineering, Artech House 1999,
System Modelling for Business Process Improvement, Artech House 1999,
Computer Systems for Global Telecommunications, Chapman-Hall 1997,
Media Engineering, John Wiley & Sons 1997,
Exploiting the Internet, John Wiley & Sons 1997,
Designing Enterprise Networks, Addison Wesley Longman 1996,
Survival in the Software Jungle, Artech House, 1995.

Mark has written over 100 journal and conference papers, including:

The problem with service level agreements ITP vol4 pgs 40-45, 2010
Realising the WiMAX opportunity, IET WiMAX Conference, London, 2007
Survival in the eBusiness Jungle, Software Focus, Sept 2000,
The BT Intranet, IEEE Computer vo16 no3 1998 (1999),
Life after ISO 9001: British Telecom's Approach to Software Quality, IEEE Communications vol32 no10 (1994),
Software Product Assessment, IEEE JSAC vol12 no2 (1994),
An Exercise in Formalising the Description of a Concurrent System, Software Practice & Experience, 22 (12), pp. 1069-1098, 1993

Media presentations include – Hypermedia, The Network, BBC Radio 4, The problem with software, Science Now, BBC Radio 4.