

# Dr Martin Biddiscombe

Currently living in Harlow, Essex, UK

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A networking and protocols architect and software developer with over five years experience at Nortel Networks, a global Internet and communications leader

## Key skills, abilities and experiences

- Configuring, managing and diagnosing faults on mixed platform IP networks.
- Installing, configuring and managing software packages under Windows, Linux and Solaris.
- Working with IP, TCP, DNS, OSPF, IS-IS, BGP, SNMP and other networking protocols.
- Implementing and configuring network protocols (including DNS, BGP, IS-IS).
- Developing and enhancing new or existing protocols, from both architecture and implementation perspectives.
- Rapidly assimilating information – for example protocol specifications or Internet RFCs.
- Prototyping/developing and modelling in several languages, including extensive use of Python.
- Willing and able to learn new languages when required.
- Authoring/co-authoring theses, technical papers, reports and patent applications.

## Achievements

- Nortel Networks (Software research engineer, 1996-current)
  - Porting (from VxWorks to Linux) and enhancement of IS-IS routing protocol
  - Integration of proprietary routing code with OpenSource routing table manager
  - Analysis of BGP router performance and routing table growth issues
  - Implementing enhanced DNS using Python enabling server selection based on content selection criteria and real-time network performance measures
  - Developed suite of web pages to demonstrate content localisation and personalisation
  - Project demonstrations to senior executives and external customers.
- University College London (PhD student, 1997-2000, concurrent with Nortel Networks)
  - PhD in Electronic and Electrical Engineering: *Free Market Communications*.
  - Use of analytical mathematical principles, simulation and modelling to determine how to maximise aggregate network and user utility (satisfaction) across a range of user and traffic types subject to underlying resource constraints.
  - Invented efficient, distributable and rapidly convergent resource allocation techniques and algorithms to implement proportional fairness; some were filed for patenting by Nortel.
- Transport Research Laboratory (Research assistant, 1993-1995)
  - Assisted in the design and implementation of research related to vehicle and traffic noise; carried out vehicle noise test site assessments for compliance with ISO-10884; tested vehicle and traffic noise in accordance with ISO-11819.

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## Employment

Employer	Job title	Dates
Nortel Networks	Software research engineer	1996-current
TRL	Research assistant	1993-1995
MAFF	Scientific officer	1992-1993

## Education

Level	Results	Subjects and institutions	Dates
PhD	Graduated 10/00	Free Market Communications, UCL	1997-1999
MRes	Distinction	Telecommunications, UCL	1995-1996
BSc	Iii	Mathematics, Reading	1989-1992

## Publications

Title and publisher	Date
Free Market Communications, <i>PhD Thesis, UCL</i> , 2000	2000
Application of free-market principles to telecoms resource allocation, <i>Electronics Letters</i> , v 35, n 4, 1999	1999
The use of economic and control theory analogies in the design of policy based Dynamic Resource Control network architectures, <i>ITC-16</i> , 1999	1999
Free Market Communications, <i>Transfer Thesis, UCL</i> , 1998	1998
Scalable Optical ATM Networks, <i>MRes Dissertation, UCL</i> , 1996	1996
Various <i>TRL customer reports</i>	1995

## Training courses

Details	Date
Hands-On C Programming (Learning Tree)	2002
DNS configuration and management	2000
Articulating the Business Value Proposition	2000
TCP/IP fundamentals	1999

## Personal information and interests

Date of birth	1971
Nationality	British
Family	Married, two daughters
Driving licence	Full, clean
Web pages	<a href="http://www.users.globalnet.co.uk/~priatel/">http://www.users.globalnet.co.uk/~priatel/</a>
Interests	Church activities, playing piano and organ, photography and travel, learning Slovak