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STEVE METHLEY has over 20 years' experience in telecommunications and data communications innovation, having led teams in the laboratories of British Telecom, Hewlett–Packard and Toshiba. Currently a consultant based in Cambridge, UK, his work includes technology, regulation, business strategy, socio-economic analyses and futurology for a range of clients from start-ups to large global corporations.

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Preface

Wireless mesh networking is a hot and growing topic, still in its infancy in some ways, whilst already shown to be capable in others. From a military beginning, mesh networks moved to civilian use and are now being deployed worldwide as both local area networks (LANs) and metropolitan area networks (MANs). However, these deployments are still 'leading edge' and it is not yet clear what the most enduring applications of mesh will be – particularly as the market moves from early adopters towards widespread take up.

Some of the claims for what a mesh network may deliver have been very ambitious to say the least. In this book we investigate such claims versus the real qualities of mesh networks and identify the key time scales and drivers for the challenges involved with making meshes. Throughout the book we attempt to keep mathematics to a minimum. Where an equation is shown, it remains practical to follow the flow of the book without needing to understand the maths fully.

The book takes a very pragmatic but balanced approach to the issues. We are particularly interested in meshes with an external access capability, for example to the Internet. We supply a technical assessment of mesh and multi-hop networking, highlight the attractions, identify the pitfalls, provide clear and concise hints and tips for success – summarised inside the back cover – and finally evaluate some real-world examples of good mesh applications. These include wireless cities, community networking and vehicular ad hoc networks (VANETs). Wireless sensor networks (WSNs) are another important application of mesh techniques with their own unique challenges, and these receive their own chapter.

We conclude that, although some of the claims for what a mesh may deliver have been exaggerated, the real qualities of a mesh network when directed to a suitable application can still make mesh the best approach.

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Thanks are also due to my wife for her support at all times without exception and to our two sons for having such boundless energy which is a constant source of inspiration.