Preface

When we initially conceived of the idea of writing this book, we were motivated in part by the lack of a single good reference for a comprehensive overview of SDN. Although we were involved professionally with SDN technologies, even we found information related to SDN to be largely unavailable in any single comprehensive source. We realized that for the very large numbers of professionals that were *not* directly working with SDN but who needed to learn about it, this was a big problem. Thus, our broad-brush goal in writing this book is to describe the setting that gave rise to SDN, the defining characteristics that distinguish it from competing technologies, and to explain the numerous significant commercial impacts that this nascent technology is already having. One of the challenges in writing an early book about such a rapidly evolving technology is that it is a moving target.

The preceding paragraph, written for our first edition published 3 years ago, still rings true today. So many technologies that were off our first edition radar are now commonly considered part of SDN. We have selected to use the words *A Comprehensive Approach* as part of our title. There are many competing ideas in use today, all of which wish to jump on the SDN bandwagon. Indeed, the size of that bandwagon seems ever-expanding. Whatever aspect or type of SDN technology with which our reader may be required to work, we at least hope that he or she will be able to place it into the broader SDN context through the reading of this book. For this purpose, we try to discuss a variety of definitions of SDN. We hope that no reader takes offense that we were not dogmatic in our application of the definition of SDN in this work.

Individuals interested in learning about Software Defined Networks or having a general interest in any of the following topics:

- networking
- switching
- Software Defined Networks
- OpenFlow
- OpenStack
- OpenDaylight
- Network Virtualization
- Network Functions Virtualization

will find this book useful.

Software Defined Networking is a broad field that is rapidly expanding. While we have attempted to be as comprehensive as possible, the interested reader may need to pursue certain technical topics via the references provided. We do not assume the reader has any special knowledge other than a basic understanding of computer concepts. Some experience in computer programming and computer networking will be helpful for understanding the material presented. The book contains a large number of figures and diagrams to explain and to illustrate networking concepts that are being defined or discussed. These graphics help the reader to continue straight through the text without feeling the need to reach for other references.

The first edition of this work was very well received. Over the 3 years since its initial publication, we have received numerous inquiries from university faculty using the text as the basis for a course.

Our motivation in producing this second edition is twofold: first, to bring the text up to date with changes in SDN and second, to target it more squarely for use in a graduate course on SDN. To this end, each chapter includes text boxes that include discussion questions relevant to the adjacent material. These questions can either be used to facilitate in-class discussion or as the basis for quiz questions. In addition, our publisher will maintain a faculty-accessible website where ancillary, course-related materials such as lecture notes and lab exercises may be found.

SUGGESTIONS AND CORRECTIONS

Although we have tried to be as careful as possible, the book may still contain some errors and certain topics may have been omitted that readers feel are especially relevant for inclusion. In anticipation of possible future printings, we would like to correct any mistakes and incorporate as many suggestions as possible. Please send comments via email to: chuck.a.black@gmail.com.