Foreword

What is Software Defined Networking and why has it created so much hype in the networking industry? For a term that was coined more than 5 years ago, it seems like it should be a simple question to answer by now. However, as with other technology terms like *cloud*, after marketing teams have years to reshape the term for their own purposes, it becomes nearly impossible to discern its meaning. To add to the confusion, a variety of related terms have popped up such as open networking, programmable networks, and software-driven networks. This leaves many people wondering what SDN really is and if there is actually anything of substance behind the hype.

For people like myself who have been knee-deep in SDN since the beginning, it is easy to separate hype from reality and see what is really happening and why. However, I regularly teach classes on SDN and find that many people who are trying to learn about SDN today are finding it extremely difficult to wade through the various angles and spins on the topic to figure out the core of what is really happening.

In July 2010 when I gave my first public talk on OpenFlow, the protocol at the heart of SDN, virtually no one had heard of OpenFlow or Software Defined Networking. Since then I have explained SDN to literally thousands of people from students to network engineers and C-level executives. Some people immediately "got it" after just a few minutes of explanation, often before I could get to slide 3 in the presentation. With some people it took a full-day class before the "light bulb" went on. Almost universally, the people who were quickest to understand SDN's potential to impact the industry were those who had been in networking long enough to remember a time before the Internet, who had actually built networking products and who understood the business of networking.

This is why Paul and Chuck are perfectly suited for explaining the value of SDN. They both have tremendous experience in the networking industry, dating back longer than they probably care to admit. They have built networking solutions through multiple generations of technology. Having led two successful startups, Paul is also intimately familiar with the business of the networking industry. This depth and breadth of experience is absolutely invaluable when explaining SDN, positioning SDN in the context of the last 30+ years of computer networking and forecasting the potential impacts on networking in the coming years.

There is no shortage of information on the Internet today about SDN in the form of blog posts, whitepapers, podcasts, and videos. There are also several books available now. However, for someone who has not been directly involved with SDN up to this point and wants to get up to speed, I have found no comprehensive source of information on SDN, written from an unbiased viewpoint, like the authors have created with this book.

The book is extremely approachable for anyone interested in networking and Software Defined Networking including undergraduate and graduate students, networking professionals, and IT managers. It is very much self-contained and does not require extensive knowledge of networking in order to provide value to the reader. It provides the reader with valuable context by presenting a brief history of networking and describing the technologies and industry landscape leading up to the creation of OpenFlow and SDN. If you are a network architect or an IT manager trying to compare multiple solutions that claim to be based on SDN, but appear to be based on very different technology, the

authors provide a solid basis for understanding and evaluating the various competing approaches to SDN in the market.

The truth is that a massive shift is happening in the networking industry and the drivers are pretty simple. You can draw a straight line from the rise of cloud computing and mobility directly to SDN, or open networking or programmable networks or whatever you choose to call it. If you want to cut through the marketing and the hype and get a comprehensive understanding of SDN and how it is helping reshape the networking industry, I definitely recommend reading this book.

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Matt Davy *is a world-renowned expert in Software Defined Networking technology. At Indiana University, he served as Executive Director of InCNTRE, the SDN Interoperability Lab, network research, and internships and training. He was the lead architect for an enterprise network with 120,000+ users, 100,000+ Ethernet ports, and 5000+ wireless access points. He has 19 years of experience designing and operating large service provider and enterprise networks.*