



## Navigating Network Complexity: Next-generation routing with SDN, service virtualization, and service chaining

By Russ White, Jeff (Evgeny) Tantsura

Download now

Read Online ➔

**Navigating Network Complexity: Next-generation routing with SDN, service virtualization, and service chaining** By Russ White, Jeff (Evgeny) Tantsura

**Design your networks to successfully manage their growing complexity**

Network professionals have often been told that today's modern control planes would simplify their networks. The opposite has happened: Technologies like SDN and NFV, although immensely valuable, are exacerbating complexity instead of solving it. *Navigating Network Complexity* is the first comprehensive guide to managing this complexity in both deployment and day-to-day operations.

Russ White and Jeff Tantsura introduce modern complexity theory from the standpoint of the working network engineer, helping you apply it to the practical problems you face every day. Avoiding complex mathematical models, they show how to characterize network complexity, so you can understand it and control it.

The authors examine specific techniques and technologies associated with network control planes, including SDNs, fast reroute, segment routing, service chaining, and cloud computing. They reveal how each of these affects network design and complexity and help you anticipate causes of failure in highly complex systems.

Next, they turn to modern control planes, examining the fundamental operating principles of SDNs, such as OpenFlow and I2RS, network and other service function virtualization, content distribution networks, Layer 2 fabrics, and service chaining solutions. You'll learn how each of these might both resolve and increase complexity in network design and operations and what you can do about it.

**Coverage includes:**

- Defining complexity, understanding its components, and measuring it
- Mastering a straightforward “state, speed, and surface” model for analyzing complexity
- Controlling complexity in design, deployment, operations, protocols, and programmable networks
- Understanding how complex network systems begin to fail and how to prevent failure
- Recognizing complexity tradeoffs in service virtualization and service chaining
- Managing new challenges of complexity in virtualized and cloud environments
- Learning why constructs such as hierarchical design, aggregation, and protocol layering work and when they work best
- Choosing the right models to contain complexity as your network changes

From start to finish, *Navigating Network Complexity* helps you assess the true impact of new network technologies, so they can capture more value with fewer problems.

 [Download Navigating Network Complexity: Next-generation rou ...pdf](#)

 [Read Online Navigating Network Complexity: Next-generation r ...pdf](#)

# Navigating Network Complexity: Next-generation routing with SDN, service virtualization, and service chaining

By Russ White, Jeff (Evgeny) Tantsura

**Navigating Network Complexity: Next-generation routing with SDN, service virtualization, and service chaining** By Russ White, Jeff (Evgeny) Tantsura

## Design your networks to successfully manage their growing complexity

Network professionals have often been told that today's modern control planes would simplify their networks. The opposite has happened: Technologies like SDN and NFV, although immensely valuable, are exacerbating complexity instead of solving it. *Navigating Network Complexity* is the first comprehensive guide to managing this complexity in both deployment and day-to-day operations.

Russ White and Jeff Tantsura introduce modern complexity theory from the standpoint of the working network engineer, helping you apply it to the practical problems you face every day. Avoiding complex mathematical models, they show how to characterize network complexity, so you can understand it and control it.

The authors examine specific techniques and technologies associated with network control planes, including SDNs, fast reroute, segment routing, service chaining, and cloud computing. They reveal how each of these affects network design and complexity and help you anticipate causes of failure in highly complex systems.

Next, they turn to modern control planes, examining the fundamental operating principles of SDNs, such as OpenFlow and I2RS, network and other service function virtualization, content distribution networks, Layer 2 fabrics, and service chaining solutions. You'll learn how each of these might both resolve and increase complexity in network design and operations and what you can do about it.

## Coverage includes:

- Defining complexity, understanding its components, and measuring it
- Mastering a straightforward "state, speed, and surface" model for analyzing complexity
- Controlling complexity in design, deployment, operations, protocols, and programmable networks
- Understanding how complex network systems begin to fail and how to prevent failure
- Recognizing complexity tradeoffs in service virtualization and service chaining
- Managing new challenges of complexity in virtualized and cloud environments
- Learning why constructs such as hierarchical design, aggregation, and protocol layering work and when they work best
- Choosing the right models to contain complexity as your network changes

From start to finish, *Navigating Network Complexity* helps you assess the true impact of new network technologies, so they can capture more value with fewer problems.

**Navigating Network Complexity: Next-generation routing with SDN, service virtualization, and service chaining By Russ White, Jeff (Evgeny) Tantsura Bibliography**

- Sales Rank: #233752 in Books
- Published on: 2015-11-27
- Released on: 2015-11-17
- Original language: English
- Number of items: 1
- Dimensions: 9.00" h x .90" w x 6.90" l, .0 pounds
- Binding: Paperback
- 320 pages



**Download** [Navigating Network Complexity: Next-generation rou ...pdf](#)



**Read Online** [Navigating Network Complexity: Next-generation r ...pdf](#)

## **Editorial Review**

### About the Author

**Russ White** began his network engineering career installing terminal emulation cards and inverse multiplexers in the United States Air Force. In 1996, he moved to Raleigh, N.C., to join Cisco Systems in the Technical Assistance Center (TAC) routing protocols team. From TAC, Russ moved to the global escalation team, and then into engineering, and finally into sales as a Distinguished Architect. He is currently a network architect working in the area of network complexity and large scale design, a member of the IETF Routing Area Directorate, an active speaker and writer, and active in the Internet Society.

He holds CCIE #2637, CCDE 2007:001, the CCAr, a Masters in Information Technology from Capella University, and a Masters in Christian Ministry from Shepherds Theological Seminary. He lives in Oak Island, N.C., with his wife and two children, and is currently a P.h.D student at Southeastern Baptist Theological Seminary.

**Jeff Tantsura** started his network engineering career in early 1990s at a small ISP as system/network administrator, later working for bigger ISPs where he was responsible for network design and architecture, vendor selection. Currently Jeff is heading Technology Strategy Routing at Ericsson as well as chairing IETF Routing Working Group. Jeff holds MSc in Computer Science and Systems Analysis from University of Georgia and Executive Certificate of Business Excellence from Haas School of Business, Berkeley.

He also holds CCIE R&S #11416 and Ericsson Certified Expert IP Networking #8.

Jeff lives in Palo Alto, CA, with his wife and youngest child.

## **Users Review**

### **From reader reviews:**

#### **Marlin Peterson:**

Do you have favorite book? Should you have, what is your favorite's book? Guide is very important thing for us to learn everything in the world. Each guide has different aim as well as goal; it means that publication has different type. Some people sense enjoy to spend their a chance to read a book. They may be reading whatever they consider because their hobby will be reading a book. Consider the person who don't like studying a book? Sometime, person feel need book whenever they found difficult problem as well as exercise. Well, probably you should have this Navigating Network Complexity: Next-generation routing with SDN, service virtualization, and service chaining.

#### **Daniel Carter:**

Here thing why this Navigating Network Complexity: Next-generation routing with SDN, service virtualization, and service chaining are different and reliable to be yours. First of all looking at a book is good but it really depends in the content of the usb ports which is the content is as tasty as food or not.

Navigating Network Complexity: Next-generation routing with SDN, service virtualization, and service chaining giving you information deeper including different ways, you can find any book out there but there is no reserve that similar with Navigating Network Complexity: Next-generation routing with SDN, service virtualization, and service chaining. It gives you thrill examining journey, its open up your current eyes about the thing this happened in the world which is maybe can be happened around you. You can easily bring everywhere like in park your car, café, or even in your way home by train. When you are having difficulties in bringing the branded book maybe the form of Navigating Network Complexity: Next-generation routing with SDN, service virtualization, and service chaining in e-book can be your substitute.

**Kent Moore:**

Exactly why? Because this Navigating Network Complexity: Next-generation routing with SDN, service virtualization, and service chaining is an unordinary book that the inside of the reserve waiting for you to snap this but latter it will shock you with the secret the item inside. Reading this book close to it was fantastic author who have write the book in such remarkable way makes the content interior easier to understand, entertaining way but still convey the meaning fully. So , it is good for you for not hesitating having this ever again or you going to regret it. This excellent book will give you a lot of rewards than the other book get such as help improving your skill and your critical thinking means. So , still want to hold up having that book? If I have been you I will go to the reserve store hurriedly.

**Marian Carson:**

As we know that book is important thing to add our know-how for everything. By a guide we can know everything you want. A book is a pair of written, printed, illustrated as well as blank sheet. Every year was exactly added. This reserve Navigating Network Complexity: Next-generation routing with SDN, service virtualization, and service chaining was filled regarding science. Spend your free time to add your knowledge about your science competence. Some people has several feel when they reading some sort of book. If you know how big benefit of a book, you can sense enjoy to read a reserve. In the modern era like today, many ways to get book that you just wanted.

**Download and Read Online Navigating Network Complexity: Next-generation routing with SDN, service virtualization, and service chaining By Russ White, Jeff (Evgeny) Tantsura #RM4P9QSK7X0**

## **Read Navigating Network Complexity: Next-generation routing with SDN, service virtualization, and service chaining By Russ White, Jeff (Evgeny) Tantsura for online ebook**

Navigating Network Complexity: Next-generation routing with SDN, service virtualization, and service chaining By Russ White, Jeff (Evgeny) Tantsura Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Navigating Network Complexity: Next-generation routing with SDN, service virtualization, and service chaining By Russ White, Jeff (Evgeny) Tantsura books to read online.

## **Online Navigating Network Complexity: Next-generation routing with SDN, service virtualization, and service chaining By Russ White, Jeff (Evgeny) Tantsura ebook PDF download**

**Navigating Network Complexity: Next-generation routing with SDN, service virtualization, and service chaining By Russ White, Jeff (Evgeny) Tantsura Doc**

**Navigating Network Complexity: Next-generation routing with SDN, service virtualization, and service chaining By Russ White, Jeff (Evgeny) Tantsura Mobipocket**

**Navigating Network Complexity: Next-generation routing with SDN, service virtualization, and service chaining By Russ White, Jeff (Evgeny) Tantsura EPub**

**RM4P9QSK7X0: Navigating Network Complexity: Next-generation routing with SDN, service virtualization, and service chaining By Russ White, Jeff (Evgeny) Tantsura**