The definitive guide to designing and deploying Cisco IP multicast networks

Clear explanations of the concepts and underlying mechanisms of IP multicasting, from the fundamentals to advanced design techniques. Concepts and techniques are reinforced through real-world network examples, each clearly illustrated in a step-by-step manner with detailed drawings. Detailed coverage of PIM State Rules that govern Cisco router behavior. In-depth information on IP multicast addressing, distribution trees, and multicast routing protocols. Discussions of the common multimedia applications and how to deploy them. Developing IP Multicast Networks, Volume I, covers an area of networking that is rapidly being deployed in many enterprise and service provider networks to support applications such as audio and videoconferencing, distance learning, and data replication. The concepts used in IP multicasting are unlike any other.
network protocol, making this book a critical tool for networking professionals who are implementing this technology.

This book provides a solid foundation of basic IP multicast concepts, as well as the information needed to actually design and deploy IP multicast networks. Using examples of common network topologies, author Beau Williamson discusses the issues that network engineers face when trying to manage traffic flow. Developing IP Multicast Networks, Volume I, includes an in-depth discussion of the PIM protocol used in Cisco routers and detailed coverage of the rules that control the creation and maintenance of Cisco mroute state entries. The result is a comprehensive guide to the development and deployment of IP multicast networks using Cisco routers and switches.

Personal Review: Developing IP Multicast Networks, Volume I by Beau Williamson
I was skeptical about buying a book this old, but I just finished it and am still slightly amazed at how little has changed in multicast technology in ~8 years. I have read Doyle's multicast coverage, listened to InternetworkExpert's excellent "class on demand" (CoD) on the topic many times, and worked through over half of their 20 CCIE lab scenarios, all of which have multicast sections. This doesn't make me an expert by any means, but I know enough now to recognize that the material in this book is still worth reading.

The differences between this book and Doyle's (2004) are:
- Williamson dedicates a lot more effort to explaining the mroute table.
- This was my single biggest stumbling block in multicast routing
- Doyle, IMO, gives IGMP a better treatment
- Doyle goes over mtrace and mstat
- Williamson spreads the information out over more pages via liberal usage of config snips and diagrams, often one per page. This allows him to go into *brutal, painful and excruciating* detail about every line in the mroute table, every flag, every state transition, etc.
- Williamson does a more thorough job of explaining exactly what happens in PIM-SM networks (100+ pages to Doyle's ~25)
- Doyle goes over Anycast RP and gives a better explanation of MSDN, which appears to have been rather cutting edge when Williamson put finger to keyboard

I finished the book in about a week of serious effort, but I skipped the following chapters (Cisco has not put much effort into the technologies described), leaving me with about 400 pages of groovyness:
DVMRP
CBT
MOSPF
Connecting to DVMRP Networks
and several sections of other chapters

To be sure, some things have changed. I didn't see any mention of the "ip pim autorp listener" command, which negates the need for sparse-dense mode when configuring Auto-RP (can't recall if Doyle mentioned that either). Also, in current versions of IOS one *does* need to specify the RP on the RP itself, whereas Williamson (and Doyle) explicitly say this is not the case (they were both right at the time of print, Cisco has changed this). Overall however, I would say that easily >95% of the material is solid here.

So which book to buy? Well if you're serious about the CCIE and/or running a multicast network you'll get both, and read them both several times. I do hope Williamson updates the book though, as he alludes to several draft proposals, and gives a "state of the multicast internet" address that I would like to know more about without digging through two dozen RFCs. Also, the few things that have changed would be a boon to the book.

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