



Techtorial: RST-2T07 Enterprise IP Multicast

Speakers: Beau Williamson

Abstract: IP Multicast is a rapidly growing technology that supports new applications such as distance learning, conferencing, stock market data feeds, and many others. Although IP Multicast at its simplest is very easy to configure, IP Multicast routing is almost a complete technology unto itself, and it uses mechanisms that differ dramatically from those used in IP unicast routing. It is not uncommon for network engineers or administrators to find themselves overwhelmed by these differences when first attempting to design, build, or troubleshoot IP Multicast networks.

This tutorial takes the attendee "from zero to light-speed" in one intense day of IP Multicast training and includes a printed student guide. The tutorial begins with the basic multicast concepts such as distribution trees, multicast addresses, and address assignment. It also covers the mechanics of the Protocol Independent Multicast (PIM) multicast routing protocol in extensive detail. In addition, the topic of PIM sparse mode Rendezvous Points and their use is presented in detail, including the use of Auto-RP, bootstrap router (BSR), and Anycast Rendezvous Points. After these fundamental concepts have been covered, the session introduces several key extensions to the PIM multicast model, such as bidirectional PIM (bidir) and Source Specific Multicast (SSM), that allow network designers to tailor the performance, scalability, and security of their multicast network. Finally, the session presents several topics on deploying IP Multicast in Enterprise networks, providing detailed deployment how-to case studies for both basic and advanced IP Multicast networks.

Agenda

7:00am – 9:00am	Breakfast	
9:00am – 10:00am	Module 1	Fundamentals of IP Multicast
10:00am – 10:30am	Module 2	Multicasting at Layer 2 (Part I)
10:30am – 10:45am	Break	
10:50am – 12:00pm	Module 2	Multicasting at Layer 2 (Part II)
12:00pm – 12:30pm	Module 3	PIM SM Protocol Mechanics (Part I)
12:30pm – 1:30pm	Lunch	
1:45pm – 2:45pm	Module 3	PIM SM Protocol Mechanics (Part II)
2:45pm – 3:30pm	Module 4	Rendezvous Points
3:30pm – 3:45pm	Break	
3:50pm – 4:30pm	Module 5	PIM Protocol Extensions
4:30pm – 6:00pm	Module 6	Deploying IP Multicast