



*This is to certify that  
Chris FitzGerald  
has completed the course  
IPv6 - 80284\_eng  
on  
5/29/08*



**Association for  
Computing Machinery**

*Advancing Computing as a Science & Profession*



# IPv6

## About This Course

### Overview/Description

To introduce IPv6, explain its features, and discuss how it can be implemented.

### Target Audience:

Technical support personnel, system engineers, network administrators, network managers, integration specialists.

Requires familiarity with the Novell or Microsoft Windows networking environments; an understanding of the fundamentals of communications and networking.

### Certification:

No Certifications for this Course.

### Expected Duration:

4 Hours 25 Minutes

### First publication date:

This course was released December 19, 2002.

### Last revision:

This course was last updated December 21, 2005.

### Course Number:

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## Course Objectives

Topic Name	When you have completed this topic, you should be able to
Introducing IPv6	describe the shortcomings of IPv4 and how IPv6 addresses them.
Main features of IPv6	describe the main features of IPv6, including header structure and extension headers.
Addressing architecture in IPv6	describe IPv6 addresses, including unicast, multicast, and anycast addresses.
Understanding IPv6	describe the features and advantages of IPv6 and implement IPv6 addressing architecture.
ICMPv6	describe the main features of ICMPv6.
IPv6 routing	describe routing issues for IPv6 and examine RIP, OSPF, and BGP.
IPv6 security architecture	describe IPv6 security architecture and discuss authentication and encryption.
Autoconfiguration in IPv6	describe stateless autoconfiguration in IPv6 and DHCPv6.
Mobile IPv6	describe the differences between Mobile IPv4 and IPv6 and describe the home agent discovery mechanism and the advantages of Mobile IPv6.
IPv6 solutions	use IPv6 in a network environment.
Protocol layers and DNS extensions	describe the modifications necessary to protocol layers and DNS extensions in order to accommodate IPv6.
Transition to and implementation of IPv6	describe various methods used for the transition to and implementation of IPv6.
Implementing IPv6	control the transition to and implementation of IPv6.
ARP and Neighbor Discovery	describe the ARP and Neighbor Discovery protocols and explain how they improve on IPv4 protocols.

IPv6

References

## Books

Understanding IPv6

2003, Joseph Davies, Microsoft Press, 0735612455