



CERTIFIED NETWORK ENGINEER FOR IPv6

CNE6 (SILVER)

Introduction

The CNE6 Silver training program is designed to provide foundation information on IPv6 technology and exposure the participants on the technical knowhow to start the IPv6 implementation.

Duration

- 4 Days

Who Should Attend?

This course is ideal for network administrations, network support personnel, network designers, networking consultants, IT managers and IT directors.

Pre-Requisite

- A good knowledge of general networking concepts
- Knowledge in IPv4 addressing

What Will You Learn?

- Why need to move IPv6 platform?
- IPv6 addressing architecture
- IPv6 packet structure and header format
- IPv6 address assignment using Neighbour Discovery protocol
- IPv6 transitions mechanisms

Approach

- This class covers both theoretical and practical knowledge.
- The practical classes are conducted in a laboratory environment.
- The participants will have hands on experience using the actual equipments.
- Quiz will conducted during the class to test the knowledge of participants about a particular sub topics
- Professional examination both theoretical and practical will conducted to test the participants knowledge towards end of the class
- All the participants that passed the examination will be awarded certificate that endorsed by Global IPv6 Forum and WIDE Japan



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Course Outline

Introduction to IPv6

- Global IP Address Resource Management
- Issues with IPv4 Addressing
- Comparison between IPv4 and IPv6
- General IPv6 features

IPv6 Addressing Architecture

- IPv6 Address Type
- IPv6 Address Representation
- IPv6 Address Scope
- IPv6 Addressing Hierarchy
- IPv6 Auto-configuration
- IPv6 Special Address
- Comparison summary between IPv4 and IPv6

IPv6 Packet Structure and Header Formats

- Comparison between IPv4 and IPv6 headers
- IPv6 Extension Headers

ICMPv6 and Neighbour Discovery

- ICMPv6 Header
- ICMPv6 Header Type
- Neighbour Discovery Protocol (NDP)
- Router Discovery
- Prefix Discovery
- Parameter Discovery
- Address Auto configuration
- Address resolution
- Next-hop determination
- Neighbor Unreachability Detection
- Duplicate Address Detection
- Redirect

Transition Mechanisms

- Co-existence
 - Dual-stack
 - Dual IP Layers
 - Bump In Stack

- Translation
 - NAT64

- Tunnelling
 - Manual tunnels
 - 6over4
 - 6to4
 - ISATAP
 - Teredo
 - GRE
 - Tunnel Broker

Dual Stack Transition Case Studies

- Lesson learn from the past
- Tunnel MTU and Path Discovery
- Key Factors for successful transition
- Transition Security Issues

Hands-on lab

- Address autoconfiguration
- Configuring static route
- Configuring IPv6 manual tunnel
- Configuring 6to4
- Configuring ISATAP

In Partnership With

Disclaimer: Course contents are subject to changes without prior notice.

