CERTIFIED NETWORK ENGINEER FOR IPv6

CNE6 (GOLD)

Introduction
The CNE6 Gold is advanced level training program for IPv6 network engineering program. This course is designed to provide in-depth knowledge how to design, implement and operate IPv6 networks.

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
- Pass CNE6 Silver certifications or equivalent
- A good knowledge of general networking concepts

What Will You Learn?
- IPv6 Refresher
- IPv6 Routing
- IPV6 Transition revisit
- DHCPv6
- IPv6 Mobility

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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ADASTA NETWORK

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Course Outline

Introduction
IPv6 Refresher

IPv6 Routing
Static Routing
RIPng (RFC 2080)
IS-IS for IPv6
OSPFv3 5RFC 2740)
MP-BGP (RFC 2545/2858)
EIGRP for IPv6

IPv6 Neighbour Discovery
Revisit CNE6 Silver Transition Mechanisms
NAT
- CGN (large-scale NAT 44)
- NAT 444 (CGN + CPE NAT 44)
-DS-Lite (NAT44 + 4over6 Tunnel)
- A+P (DS-Lite with preconfigured port ranges)
- NAT64
DS-Lite
IPv6 Rapid Development (6RD)
Tunnel Setup Protocol (TSP)
6over4

DHCPV6
DHCPv6 Standard
DHCPv6 Operational model
Understanding DUID
Identity Association (IA)
DHCPv6 Message Types
DHCPv6 to DHCPv4 Message Comparison
DHCPv6 Protocol
How It Works
Stateless DHCPv6
DHCPv6 Deployment Considerations
DHCPv6 Server Configurations
DHCPv6 Client Configurations
DHCPv6 Relay Configurations

Mobility
What's Mobility?
Components of MIPv6
How it works?
How CN and MN communicates
Route optimization mode
Bidirectional tunneling mode
Implementations

IPSec
Security Policy
Security Association (SA)
Key Management
Internet Key Exchange (IKE)
Architecture
Operation Mode

IPv6 Security Consideration
Concerns regarding security in IPv6
Common Misunderstanding
Attack vectors
Attack Types
Reconnaissance
Denial of service
Covert channels

Campus IPv6 Deployment
Campus deployment strategy
Campus IPv6 address allocation
Campus deployment topology – options Campus services
Service provider deployment considerations

Hands-on lab
Configuring static route
Configuring RIPng
Configuring OSPFv3
Configuring BGP4+

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

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IPv6 FORUM

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