TK061: SDN OpenFlow

Duration

2.0 Days

Course Content

1. Fundamental characteristics of SDN

- 1.1. History of SDN
- 1.2. SDN Value Proposition
- 1.3. SDN Use Cases

2. Characteristics of an SDN Network

- 2.1. Plane Separation
- 2.2. Simplified Forwarding Element
- 2.3. Centralized Control
- 2.4. Network Automation
- 2.5. Virtualization
- 2.6. Openness
- 2.7. Interoperability

3. SDN Devices

- 3.1. Controllers
- 3.2. Switches
- 3.3. Orchestration
- 3.4. API's
- 3.5. Overlay Networking Abstractions

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4. SDN Architecture

- 4.1. Traditional Network Architectures vs. SDN
- 4.2. SDN architectural components
- 4.3. Standards bodies
- 4.4. Controller design
- 4.5. API's and applications.
- 4.6. SDN Layers
- 4.7. Northbound and Southbound API's
- 4.8. East/West API's
- 4.9. SDN Security and Availability
- 4.10. Packet and Optical Integration methods
- 4.11. SDN Migration Strategies
- 4.12. Hybrid Mode Switches

5. SDN Ecosystem

- 5.1. Standards Bodies and Industry alliances
- 5.2. Network Operators and Enterprises
- 5.3. Network Equipment Manufacturers
- 5.4. Software vendors
- 5.5. Academic and Industry research institutions and labs
- 5.6. Open Source Initiatives

6. OpenFlow Introduction

- 6.1. OpenFlow Protocol operations
- 6.2. OpenFlow versions
- 6.3. Proactive vs Reactive Flows
- 6.4. Statistics and Counters

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6.5. Steps in setting up a flow

6.6. Policy Enforcement

6.7. OpenFlow® Management and Configuration Protocol

6.8. OF-Config, OAM, OFDPA, OVSDB

7. Open Source SDN Solutions

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