Course ID
SDN1

Course Duration
1 day

Course Title
SDN: Software Defined Networks

Related Courses

- SDN and NFV: Software Defined Networks and Network Functions Virtualization (SDN-NFV, 2 days)
- Eogogics Cloud Computing Curriculum

Aimed At

Managers and professionals, both corporate and Government, whose work requires an overview of SDN.

Prerequisites

General familiarity with TCP/IP.

Course in a Nutshell

In this course you'll learn what SDN is, what led to it, how it's deployed, and its benefits. We'll take a close look at how it works, the OpenFlow protocol, SDN in the datacenter and the WAN, deployments of SDN in the real world, equipment manufacturers, and the future of SDN. Also covered is the interaction of SDN with optical networking technologies such as OTN, ASON, and GMPLS.

Customize It!

- A 2-day version of this course that also includes Network Functions Virtualization (NFV) is available.
- An extended 2-day version of this course, aimed at network design/integration professionals, is also available.

Learn How To

- Principles of Software Defined Networking (SDN)
- Operation of networks using SDN
- OpenFlow protocol use and its place in SDN
- How SDN is deployed and the benefits it brings
- How software defined networks are put together
- How SDN fits in with other network technologies

Course Outline

- Course overview
- Quick review of essential TCP/IP principles
- Genesis of SDN: What problem is it trying to solve?
    - Definition and description of SDN
    - Problem of modern networks
    - How SDN will solve the problem
    - Understanding networks in terms of planes
- Flavors of SDN
    - WAN
    - Data center
    - Other applications
- How SDN works
    - Characteristics
    - The controller
    - Equipment: White boxes and bare metal
    - SDN applications
- OpenFlow protocol
    - Overview
    - Basic functionality
    - OpenFlow as fundamental protocol for SDN
    - OpenFlow limitations
    - Protocols competing with OpenFlow
- Alternative definitions of SDN
    - Disadvantages of open source software for networking
    - SDN via APIs
    - SDN via Hypervisor
    - SDN via opening up the device(s)
    - Network Function Virtualization (NFV) and SDN
- SDN in the data center
    - Data center definition
    - Data center needs and demands
    - Tunneling and path technologies in data center
    - Ethernet and SDN
    - Real world implementations
- SDN in WAN
    - SDN cockpit

- Service provider and carrier networks
- Campus networks
- SDN and optical networks
- SDN vs P2P/Overlay networks

- SDN equipment and building a software defined network
  - SDN ecosystem
  - Equipment manufacturers
  - White box switches, bare metal, and merchant silicon
  - OpenDaylight and OpenDaylight controllers
  - Other controllers marketed
  - Putting it together
  - Standards bodies

- Deployments of SDN
  - Overview
  - Google's SDN

- Business ramifications
  - SDN and everything as a service
  - SDN vendors
  - Impact on Network Equipment Manufacturers (NEMs)
  - Impact on networking vendors
  - Effect on end-users

- Future of SDN
  - Evolving standards
  - Novel applications

- Course wrap-up
  - Course recap
  - Evaluations

DCN *LfLnj*