# Harvard University
# CSCI S-40, Communication Protocols and Internet Architectures
# Reading Assignment for Lecture 13

**Reading Assignment for Lecture 13**

This lecture includes a discussion of Network Function Virtualization (NFV), Software Defined Networks (SDN), and Cloud Computing.

* In the course textbook Internetworking with TCP/IP Volume One - 6th Edition
  * Read Chapter 28. **(Required Reading)**
  Note that the textbook refers to a number of older websites (i.e., openflow.org and openflowswitch.org) that are no longer up-to-date. The current website for the OpenFlow networking project is:
  https://www.opennetworking.org/
  The textbook also mentions version 1.1 of the OpenFlow switch specification: the most current, publicly available version is 1.5.1.

* The following is an excellent article on SDN, including a list of over 500 references. Read pages 1 -13 on the history and basic architecture.
  * http://arxiv.org/pdf/1406.0440v3.pdf (pages 1 - 13)
  Citation and Author information is at http://arxiv.org/abs/1406.0440

* Read RFC 7426 on SDN Layers and Architecture, pages 1 - 14
  https://tools.ietf.org/html/rfc7426

* Read sections 1, 2, 5.0, 5.1, 5.2 and 5.3 of the OpenFlow Switch Specification version 1.5.1 (April 2015). Note that you do not need to understand the specific details of pipeline processing and matching. The spec is available in the list of OpenFlow switch specs on the ONF website.
  https://www.opennetworking.org/software-defined-standards/specifications/
**The specification is also posted in this week's module on the course website.**

OPTIONAL: Readings on SDN:
  https://tools.ietf.org/html/rfc5810 (ForCES)
  https://tools.ietf.org/html/rfc7920 (interface to the routing system)
  http://queue.acm.org/detail.cfm?id=2560327
  http://tools.ietf.org/html/rfc7149 (discussion on SDN from a service provider perspective)

OPTIONAL: SDN related websites
  http://www.opennetworking.org (Source of some of the documents noted above.)
  http://openvswitch.org/
  http://www.opendaylight.org/
  http://www.sdncentral.com/
  http://mininet.org
  https://wiki.onosproject.org/display/ONOS/Wiki+Home

OPTIONAL: A few of the vendors that are in the SDN market.
  https://www.juniper.net/us/en/products-services/sdn/
  https://www.cisco.com/c/en/us/solutions/software-defined-networking/overview.html?dtid=osscdc000283
  http://www.arista.com
  http://www.plexxi.com
  http://www.brocade.com

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