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## CCIE Service Provider v5.1

### CCIE Service Provider v5.1: Equipment and Software List

The practical exam tests candidates on solutions that can be configured using the equipment and software versions below. Candidates may see more recent software versions during their attempt, but they will be tested only on features in this list.

Passing the exam requires a depth of understanding that is difficult to obtain without hands-on experience. Early in your preparation, you should arrange for access to equipment and software like that used on the exam.

#### Virtual Machines

- Cisco CSR 1000v Series Cloud Services Routers (CSR) Release 16.9.x
- Cisco IOS XRV 9000 7.x
- Network Service Orchestrator (NSO) Release 6.x
- Cisco Catalyst 8000V Edge Release 17.x
- Cisco IOS XRd Release 7.x

#### Supporting Virtual Machines

- Linux Ubuntu: 18.04 LTS