Cisco NX-OS and Cisco IOS Comparison:-

A few key differences worth mentioning:

- NX-OS uses a feature-based license model. This enables flexibility in licensing for uses in different areas of the network in which not all features are required.
- NX-OS has the capability to enable and disable features such as OSPF, BGP, and so on via the feature configuration command. Configuration and verification commands are not available until you enable the specific feature.
- Interfaces are labeled in the configuration as Ethernet. There aren't any speed designations in the interface name. Interface speed is dynamically learned and reflected in the appropriate show commands and interface metrics.
- NX-OS supports VDCs, which enable a physical device to be partitioned into logical devices. When you log in for the first time, you are in the default VDC.
- By default, Cisco NX-OS has two preconfigured instances of Virtual Routing Forwarding (VRF): management and default-default. All Layer 3 interfaces and routing protocols exist in the default VRF. The mgmt0 interface exists in the management VRF and cannot be moved to another VRF. On the Nexus 7000, mgmt0 is accessible from any VDC. If VDCs are configured, each VDC has a unique IP address for the mgmt0 interface.
- Secure Shell version 2 (SSHv2) is enabled by default. (Telnet is disabled by default.)
- NX-OS uses a kickstart image and a system image. Both images are identified in the configuration file as the kickstart and system boot variables. The first image that boots is the kickstart image, which provides the Linux kernel, basic drivers, and initial file system. The NX-OS system image boots after the kickstart image; the system image provides L2, L3, infrastructure and feature support such as OTV, multicast, FEX, and so on.
- NX-OS removed the write memory command; use the copy running-config startup config.
  The alias command syntax can be used to create an alias for a shortcut.
- The default Spanning Tree mode in NX-OS is Rapid-PVST+.

Operation	IOS	NX-OS
Displays the running configuration	show running-config	show running-config
Displays the startup configuration	show startup-config	show startup-config
Displays the status of a specified port-channel interface	show etherchannel #	show port channel #
Displays the current boot variables	show boot	show boot
Displays all environmental parameters	show environment	show environment
Displays the percentage of Fabric used per module	show fabric utilization	show hardware fabric-utilization [detail]
Displays the supervisors high-availability status	show redundancy	show system redundancy status
Displays CPU and memory usage data	show process cpu	show system resources
Displays specific VRF information	show ip vrf *name*	show vrf *name*