

Difference Between Router and Gateway

A gateway is just a piece of hardware that serves as a gate between networks, but a router is a networking layer system used to control and forward data packets to devices network. Also, the operating principles of routers and gateways are significantly different. The difference between router and gateway is given in the table below.

Router VS Gateway	
Router	Gateway
It is a piece of hardware that is in charge of taking in, examining, and sending data packets to other networks.	It is a device used to facilitate communication between networks with various protocol sets.
It is compatible with dynamic routing.	It is not compatible with dynamic routing.
It is only hosted by specific applications.	It is hosted on specialised applications, real servers, or virtual applications.
A router also offers other services like wireless networking, static routing, NAT, DHCP server, etc.	A gateway also offers other services like protocol conversion and network access control.
Only three and four layers are easily operative for a router.	A gateway is limited to five layers of operation.
A router is often referred to as a wireless router or an internet router.	A gateway may also be referred to as a router, proxy server, or voice gateway.

What is a Router?

A router is a networking tool that connects various switches and the networks that go with them to create a huge network. These switches may be found in one location or several sites, along with the networks that connect them.

You can manage numerous networks and route network traffic between them with the assistance of a router. Router has two connections within your own local network and one connection to the Internet. Additionally, many routers come with built-in switches that let you connect several wired devices.

What is a Gateway?

A gateway is fundamentally a piece of hardware that serves as a "gate" between networks. Consequently, it can also be described as a node that serves as a gateway for other nodes in the network. Additionally, it is in charge of permitting network traffic flow. Since a gateway communicates via many protocols, its operations are far more complicated than those of a switch or a router.

- A gateway is in charge of enabling unrestricted internal network traffic flow.
- A gateway's operations are much more complex than a switch or router since it interacts with various protocols.
- A gateway is a device that converts one protocol into another and is used to interact across networks that employ various protocols.

Similarity Between Router and Gateway

Routers and gateways are both physical elements of a network that control traffic and choose how it moves between two or more networks. When a network uses a router as both an access point and an end point, the router transforms into a gateway.

A gateway frequently collaborates with a router and a switch to complete the routing process. A gateway translates the protocol when it gets a packet, and the router then sends it on to the following router.