WHAT TO CONSIDER BEFORE BUYING A SERVER RACK

Whether you run a small or large business, you are probably storing your IT devices such as servers, routers, and switches on a server rack inside a server room or a data center. Server racks are essential for protecting your devices and keeping them organized to improve operation efficiency.

Design Options: Open Frame vs. Enclosed Cabinet

Server racks come in either open-frame or enclosed-cabinet designs and are available in floor-standing or wall-mount options.

MAIN DIFFIRENCES	Open Frame	Enclosed Cabinet
More Economical	✓	✗
Passive Airflow	✓	✗
Fan and Vent Options for Cooling	✗	✓
Security Lock(s)	✗	✗
More Accessible for Maintenance	✓	✗
Protection from Dust, Moisture	✗	✓
More Aesthetic Appeal (neat, organized cabling)	✗	✓
Accessory Options (rack shelves, patch panels, etc.)	✓	✓
Higher Weight Capacities	✗	✓

Heavy Duty Construction

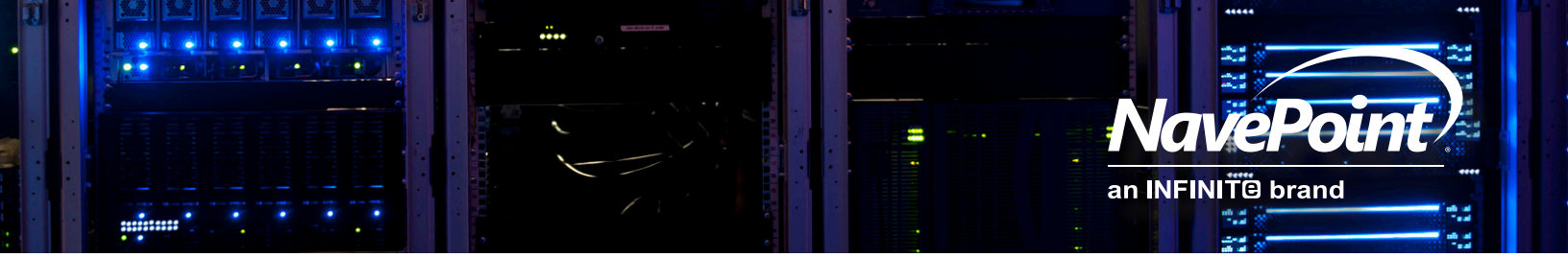
NavePoint's server racks will protect your sensitive networking devices for years to come. Our enclosed cabinets feature a sturdy, welded frame made from cold-rolled steel, and the metal exterior has a black powder-coated finish for durability and corrosion resistance. Our open-frame server racks are made of steel or aluminum with different weight capacities suitable for various applications.

Dimensions

Most of NavePoint's server racks are built to fit 19-inch-wide IT equipment. While the width is standard, the depth and height vary to support different applications such as home offices, single or multisite businesses and organizations, and large data centers.

To meet your more specialized needs, we also offer mid-depth cabinets, 10-inch-width cabinets, and A/V cabinets.

- **CAPACITY**
  How many devices will you mount in your network rack? Calculate the total measurements of all your devices combined.
- **APPLICATION**
  Will you mount IT networking equipment or audio/video gear on the rack?
- **ENVIRONMENT**
  Where will you install the rack? Do you need to protect your networking equipment from moisture, heat, or dust? Do you need additional fans to keep your equipment cool?
- **SECURITY**
  Do you have restricted access to your server room or data center, or do you need extra security to protect your devices from tampering?



Calculating Rack Units

Determining the server rack size you need begins with calculating the height. Rack height is expressed rack-units (U) such as 12U or 42U (The height of a single rack unit is 1.75 inches, or 44.45 mm).

To calculate your rack unit requirements, follow these steps:

1. **LIST THE EQUIPMENT**
   Make a list of all the devices you want to install in the rack, including servers, switches, PDUs, patch panels, and any other components.

2. **DETERMINE THE HEIGHT OF EACH DEVICE**
   Find out how many rack units each device requires. This number (2U, 3U, etc.) is usually found in the product specifications or the equipment's user manual.

3. **ADD UP THE RACK UNITS**
   Sum the total height of all the devices to get the total required rack units. For example, if you have two servers with 2U height each, one switch with 1U height, and a PDU with 1U height, the total rack units would be 2U + 2U + 1U + 1U = 6U.

4. **ACCOUNT FOR EXTRA SPACE**
   It is often a good practice to add some extra rack units for future expansion or to accommodate additional equipment that might be added later. This is especially important if you expect to scale up your infrastructure in the future.

5. **ACCOUNT FOR RACK ACCESSORIES**
   Remember to consider space requirements for cable management, blanking panels, and any other accessories that may take up additional rack units.

6. **PLAN FOR AIRFLOW AND COOLING**
   Leave sufficient space between rack devices to ensure proper airflow for cooling. Overcrowding racks can lead to thermal issues and reduced equipment performance.

7. **CHOOSE AN APPROPRIATE RACK SIZE**
   Based on the total rack units and any additional space requirements, select a rack size that fits your needs. Common network rack sizes are 42U and 45U, but you can find many other sizes as well.

8. **CHOOSE THE RIGHT RACK**
   Select a server rack that suits your needs in terms of size, weight capacity, and whether it is an open-frame or an enclosed-cabinet design. Make sure the rack is compatible with your equipment and offers sufficient space for proper airflow and cable management.

Keep in mind that the physical size of the equipment can vary, even if they have the same rack unit measurement. Some devices may have more depth, so check the dimensions and make sure they fit well within the chosen server rack. By calculating your rack unit requirements accurately, you can optimize your server rack layout and ensure that you have enough space to accommodate all your equipment.

NavePoint's quality server racks and cabinets are available in a variety of capacities and depths. Our easy-to-install products come with free, same-day shipping to help you complete your projects on time and within budget.

Questions? Contact us at **+1 (866) 312-5401** or email **customerservice@navepoint.com.**