FIND YOUR PERFECT FIT: NAVEPOINT'S COMPLETE GUIDE TO IT & AV RACK SELECTION

How to Choose Between Open Racks and Enclosed Cabinets for Your IT or AV Setup

Introduction: The Foundation of Every Reliable Setup

Choosing the right rack or cabinet affects performance, safety, serviceability, and long-term scalability. Whether you're a DIY builder or a professional installer, this guide clarifies the differences between open-frame racks and enclosed cabinets and helps you select the right solution for your project.

Understanding the Two Core Types

Open-Frame Racks

Open racks are skeletal two-post or four-post frames used to mount servers, patch panels, switches, and AV components. They are cost-effective, easy to service, and ideal for secured or temperature-controlled environments.

KEY TRAITS:

- ✓ Maximum airflow and accessibility
- ✓ Lower upfront cost
- ✓ Adjustable rails and modular expansion
- ✓ No doors or side panels

IDEAL FOR:

Server rooms, test labs, wiring closets, or any secure location where open access is preferred.

Enclosed Cabinets

Enclosed cabinets provide a secure and organized environment for your network or AV equipment. With lockable doors, removable side panels, and fan-compatible tops, they enhance security, cable management, and overall aesthetics—ideal for both private and public-facing spaces. You can choose from a variety of options, including standard wall mount cabinets, commercial-grade enclosures, and AV-specific models, depending on your project size and installation needs.

KEY TRAITS:

- ✓ Lockable and secure
- ✓ Cleaner appearance and organized cable routing
- ✓ Better dust and impact protection
- ✓ Optional fans or perforated panels for controlled airflow

IDEAL FOR:

Retail or office environments, shared spaces, AV installations, or any area needing a professional appearance and secure gear housing.

Side-by-Side Comparison

Attributes	Open Frame	Enclosed Cabinet	Installation Insights
Access & Serviceability	360° open access for installations, upgrades, and maintenance	Doors and panels require opening or removal for full access	Open racks save time during frequent changes; cabinets are better for long-term deployments
Airflow & Cooling	Unobstructed; ideal for natural convection	Requires perforated doors or fan kits for optimal airflow	In dense or hot environments, plan cabinet airflow (fan assemblies, vent paths, blanking panels)
Security & Protection	Minimal physical protection	Lockable doors and side panels protect against tampering	For public/shared environments, cabinets are essential
Dust & Environmental Resistance	Fully exposed	Better sealed against dust and debris	Choose cabinets in dusty or industrial settings
Noise Control	Exposed components are louder	Panels provide some sound dampening	Cabinets reduce ambient noise for offices and retail
Aesthetics & Cable Management	Functional, visible cabling	Concealed cabling and finished look	Cabinets elevate presentation for client-facing installs
Flexibility / Depth Adjustability	Rails adjustable; accommodates varied equipment	Limited by cabinet depth range	Open racks best for irregular device sizes
Load Capacity	Varies by frame design	Heavier construction, often higher load ratings	Match equipment weight + margin; see spec examples below
Installation Space	Requires rear/side clearance	Slightly larger footprint; door swing	Plan door swing and ventilation space for cabinets
Cost	Usually lower upfront	Higher due to structure and doors	Added cost pays off in security/protection
Typical Use Cases	Data labs, secured server rooms, test setups	Office closets, retail sites, shared spaces	Many installs combine both for flexibility

Common Use-Case Scenarios with Representative Products

Project Type	Recommended Solution	Recommended Product	Why It Fits
Small DIY / Home Network	Wall-mount Open Frame Rack (6U–15U)	NavePoint 12U Swing Gate Wall Mount Rack with 24in Depth	Easy to install, budget-friendly, perfect for light gear
Small Office Closet	9U–12U Wall Cabinet (Performance or Pro Series)	NavePoint 12U 600mm Wall Cabinet	Lockable security, good ventilation, sleek appearance
Medium IT Closet or AV Rack	4-Post Adjustable Open Rack (25U–42U)	NavePoint 42U Adjustable-Depth 4-Post Rack	Flexible depth, great for networking and patch panels
Enterprise / Data Environment	Floor-Standing Cabinet (Commercial or Quick-Assemble)	NavePoint 42U Commercial Cabinet	High load rating, lockable, full-height capacity
AV / Multimedia Project	Audio-Video Cabinet	NavePoint 42U AV Cabinet	Shelf layout and depth optimized for AV gear with (4) shelves included
Tight / Vertical Mount Spaces	Low-Profile or Vertical Enclosure	NavePoint 6U Vertical Wall-Mount Enclosure	Ideal for switch-depth applications and space-restricted areas

Decision Guide: Find Your Perfect Fit

Question	If You Answer…	Best Choice
Is the area secured or public?	Secured room	Open-frame rack
	Public/shared space	Enclosed cabinet
How often will you access equipment?	Weekly/monthly	Open rack or swing-gate wall cabinet
	Rarely	Standard enclosed cabinet
Do devices vary in depth?	Yes	2-post racks, adjustable depth 4-post racks, or cabinets with adjustable depth vertical equipment mountain rails
	No	Cabinets with fixed depth vertical equipment mounting rails
Is noise a concern?	Yes	Enclosed cabinet
	No	Open-frame rack
Need fast cooling without added fans?	Yes	Open-frame rack
	No / managed airflow	Enclosed cabinet
Are you expanding later?	Yes	Modular open frame or quick-assemble cabinet
	No / fixed load	Performance or Commercial cabinet

Educational Insights and Best Practices

COOLING & AIRFLOW

- Plan ventilation early; cabinet installs often require perforated doors or fan tops.
- Avoid blocked exhaust paths; keep 3–6 inches clearance to rear panels.
- Use blanking panels to optimize airflow in enclosed cabinets.

SECURITY & COMPLIANCE

- In shared or regulated environments, choose lockable cabinets (e.g., Performance, Pro, or Commercial Series).
- Include proper grounding/bonding for all metal enclosures.

NOISE & ENVIRONMENT

- In office or retail, cabinets help reduce audible equipment noise.
- Open racks may amplify sound and should be isolated if noise is a concern.

MAINTENANCE

- Inspect rack hardware and cabling quarterly.
- Open racks: dust more frequently and verify fasteners.
- Cabinets: remove side panels annually to verify airflow, power, and cable strain.

EXPANSION & LOAD PLANNING

- Leave 15–20% spare U-space and ~25–30% weight margin for growth.
- Consider quick-assemble or modular designs for growing networks.

Expert Tips from the Field

- Mix & match: open racks in secure backrooms, enclosed cabinets in customer-facing spaces.
- Bundle accessories early: cable managers, blanking panels, PDUs, fan kits, lighting.
- Verify door swing and hinge clearance in tight rooms.
- Distribute weight with heavy gear low in the rack.
- Label and document everything.

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**.