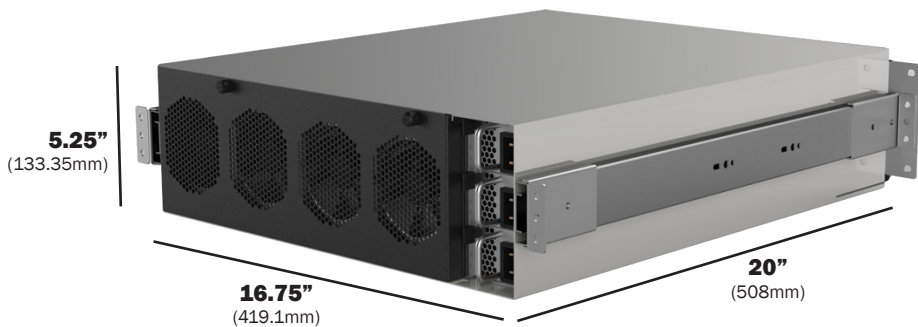# NEXT COMPUTING

MORE POWER
LESS SPACE

NUCLEUS
FRONT I/O

Traditional rack-mount servers are intended mainly for datacenters or server rooms, but aren't designed for specialized tasks or to be used on-site or in vehicles. On the other hand, industrial rack systems might be better suited for running industry-specific applications, but often lack performance and flexibility for high-performance requirements.

In addition, many environments simply can't accommodate large systems with a typical 26" or longer rack depth, meaning you'll need to compromise with a lower performing system or invest in a costly custom design. For these reasons, choosing commodity servers, rack-mount workstations, or low-end industrial systems could be costing your company money.

Nucleus - Front I/O solves these problems by delivering high-performance computing in less space. High-speed Intel processors, massive storage and RAM capability, and expansive I/O make Nucleus the ultimate flexible hardware platform for any tough computing challenge.

At only 20" deep, this modular, compact server/workstation platform can fit into specialized environments such as military ground vehicles, aircraft, or broadcast trucks. The system's 3U rack height means it is small enough to be easily transported using a rolling transit case. And front-access I/O allows it to be used in unique applications such as telecom environments or test labs that require forward-facing access to PCI slots and I/O ports.

Forward facing I/O access

Short 20" rack depth

Fast Intel® Xeon® and Intel Core processors

Up to 512GB DDR3 memory

Up to 18 removable or fixed SATA, SAS or Solid State hard drives

Up to 7 full-length, full-height PCI Express or PCI slots with secure rear brackets

Redundant AC or DC power supplies

5.25"
(133.35mm)

16.75"
(419.1mm)

20"
(508mm)

Rear view

Available CPUs	• Single Intel Core, Intel Xeon, AMD Ryzen, or AMD EPYC processor • Single or dual Intel Xeon processors
Memory	Up to 512GB DDR4 2133MHz RAM
PCI Expansion	Up to (7) full-length, full-height PCI Express 3.0 slots
Removable Storage	• Up to (16) internal, no-tools removable SATA, SAS, or Solid State hard drives • (2) front-acess internal no-tools removable SATA, SAS, or Solid State hard drives
Fixed Storage	• Up to (18) fixed SATA, SAS, or Solid State hard drives Note: mutually exclusive with some removable drive configurations
Available Drive Capacities / Features	• SATA up to 2TB each • SAS up to 2TB each • Solid State Drives up to 4TB each • Encryption options available
RAID	Onboard RAID 0/1/5/10, or via add-on PCIe RAID controller
Operating Systems	• Windows Server, Windows 10 Pro • CentOS, Red Hat and other Linux distributions, VMWare ESXi and other virtualization environments
Power	• 680W Gold Plus PSU • 1100W 50/60Hz 110/220V AC 1+1 redundant • 1100W 48V DC, 1+1 redundant
Physical	• 16.5" (419.1mm) W—not including side rails x 5.25" (133.35mm) H x 20" (508mm) D • ~42 lbs.
Optional Equipment	• Rugged rolling transit cases in 4U, 6U, and 8U sizes • 1U, 17" folding rack-mount LCD console with keyboard, touchpad, and 8-port KVM • DVD-RW / BluRay optical drive
Warranty	1 year parts and labor; 2nd and 3rd year warranties available