Dell PowerEdge C Portfolio

Dell™ PowerEdge™ C products make hyperscale custom designs widely available in a family of rack servers, microservers, and a PCI expansion chassis, designed for scale-out cloud computing, Web 2.0 services, telco/hosting operations, high-performance computing, and big data applications.

The PowerEdge C portfolio

Dell PowerEdge C6100 and C6105 servers
The flagship products in the PowerEdge C line

Proven in some of the world's largest Web and cloud data centers, the shared infrastructure Dell PowerEdge C6100 and C6105 servers offer maximum compute density while maintaining hot-plug drives, independently serviceable servers, and ultra-high power efficiency.

The **PowerEdge C6100 rack server** features four independent nodes with dual Intel® Xeon® 5500/5600 series quad- and hex-core processors connected to 12 DDR3 memory slots. Expansion slots include an x16 PCI Express Gen2 and an x8 PCI Express Gen2 mezzanine slot.

"We're seeing great energy and space savings per amount of work done. With the advancements that Dell has embedded in the C6100 series servers running Intel Xeon X5600 series processors, we can get 150 percent of the work in 50 percent of the space"
– Nathan R. M. Crawford, Director of the Chemistry Modeling Facility and GreenPlanet HPCC, School of Physical Sciences, University of California Irvine.

The **PowerEdge C6105 rack server** is based on the AMD® Opteron™ 4100 series, one of the world's lowest-power-per-core processors. The PowerEdge C6105 has four two-socket server nodes, for up to 48 cores in a cost- and power-efficient shared infrastructure.

"The idea that we could have a lot of those servers pulling less power is big for us. We pay a significant amount for power. If you can take a cabinet and run it at 20 amps versus 30 amps, you can save a significant amount of money, especially when you're talking about hundreds of cabinets."
– Justin Giardina, CTO, iland Cloud Infrastructure

Dell PowerEdge C1100 and C2100 servers
Completing the lineup for Web, analytics, and cloud

The **PowerEdge C1100 rack server** has two Intel® Xeon® 5500/5600 series processors and 18 DDR3 high performance DIMMs. With its flexible chassis options, the PowerEdge C1100 is capable of supporting up to four 3.5-inch or 10 2.5-inch hot-plug HDDs (SAS/SATA/SSD), in addition to a true x16 PCI Express slot and two dedicated mezzanine connectors for SAS and 10Gb Ethernet (GbE) connectivity.

Leveraging custom-build expertise

In creating the PowerEdge C line, Dell Data Center Solutions (DCS) leveraged its expertise in custom-built hyperscale computing solutions and combined it with high-production volume.

The result is a portfolio of ultra-dense, high-performance, high-efficiency computing solutions that are built to scale out with your business.

PowerEdge C servers are best for large, homogenous cloud/cluster application environments where availability resides predominantly in the software stack. PowerEdge C servers do not include extensive systems management, or broad enterprise storage. Instead, the PowerEdge C line gives you more of what you need most in a hyperscale or scale-out environment—density, scalability, and highly efficient power and cooling.

The **PowerEdge C2100 server** features the performance of two six- or quad-core Intel® Xeon® 5500/5600 series processors with 18 DDR3 memory slots to increase gigabytes without increasing the number of nodes. It supports up to 12 3.5-inch or 24 2.5-inch hot-plug disks (SAS/SATA) and has two internal 2.5-inch disk bays.

Dell PowerEdge C6145 server and C410x PCIe expansion chassis
For high performance computing

The **PowerEdge C6145 rack server** offers a high-performance four-socket server in an efficient shared infrastructure design. With up to two servers, eight sockets, 128 cores, and 1TB or memory in a 2U chassis, the PowerEdge C6145 aims to be the most powerful 2U server in the world high performance computing and other computational-intensive workloads.

"Designed with virtualization in mind, this server is by far the fastest, most powerful, mainstream enterprise iron that's ever come through the CRN test center"
– Edward J. Correia, CRN

An external PCI Express (PCIe) expansion chassis, the **PowerEdge C410x** connects 1-8 servers to 1-16 PCIe devices to get results faster, while saving on space, weight and cost. Loaded with NVIDIA® Tesla™ graphics processing unit (GPU) modules, it brings 21 TFLOPs of computing throughput in single precision performance in a 3U.

"The Dell PowerEdge C410x PCIe expansion chassis generates an enormous amount of processing power on a very small footprint. A single NVIDIA Tesla M2070 GPU processor exceeds 400 cores. Multiply that times sixteen GPU's (the capacity of a single C410x) and you get a whopping amount of processing power that was only available before by using a very large number of CPU-based systems. As for footprint: a single PowerEdge C6145 can power two fully populated C410x's for a combined total of 33 Teraflops in just 7u,"
– Savtira

Dell PowerEdge C Microservers
Right-sized for lightweight hosting and Web applications

The **PowerEdge C5125 and C5220 microservers** feature the new PowerEdge C5000 series chassis. Focused at hosting and Web front-end applications, these lightweight servers increase server density, power efficiency, and serviceability by offering up to 12 single socket servers in a fully cold-aisle-serviceable 3U chassis.

"We have more than 250 servers per rack. You never see that density anywhere. The rack uses just 3 kilowatts, which is very low—11 watts per server."
– Arnaud de Bermingham, CTO, Online.net

SeaMicro® SM10000-64 10U Rack-in-a-Box™

The Dell DCS team makes available the SeaMicro SM10000-64 Rack-in-a-Box that integrates top-of-rack Ethernet switching, server management, and application load balancing into a single 10-rack unit plug and play server. The SeaMicro SM10000-64 uses just 2-3 kilowatts and can replace a 12kW rack for approximately 4.5 watts/core.

"The growth of various cloud computing models has resulted in many of these organizations grappling with the best way to optimize and scale the performance of their enormous data centers. This new microserver series, through a shared infrastructure and energy efficient design, helps these customers maximize their IT environments while helping them adapt to change with a highly modular and serviceable design,"

– Reuben Miller, IDC Senior Research Analyst, Data Center Knowledge

Why choose PowerEdge C?

Data center operators around the world look to the Dell PowerEdge C series to find computing solutions that help them build and maintain a competitive advantage. Here are some of the specific reasons these forward-looking organizations run their businesses on PowerEdge C servers.

- The PowerEdge C series contains leading-edge technology from the individual components through the chassis.

- Most PowerEdge C servers are designed as shared infrastructure solutions. They share the chassis, power, and cooling across multiple compute resources to increase density, power, and cooling efficiency.

- Hot-swap power supplies and server nodes simplify and speed serviceability. PowerEdge C microservers also feature cold-aisle serviceability, making it easier for organizations to run their data centers at higher temperatures for further energy savings.

- The PowerEdge C series is purpose-built for scale-out environments. PowerEdge C servers do not include extensive systems management or broad enterprise storage.

- PowerEdge C products come with a specialized global portfolio of support services for organizations focused on cloud building, Web 2.0 services, telco/hosting operations, high-performance computing, and big data applications.

- The DCS team leverages Dell's award-winning supply chain to quickly deliver—at scale—the latest, most efficient, and cost-effective data center technology.

Let's get started.

To learn more about the Dell PowerEdge C portfolio, visit:
www.Dell.com/PowerEdgeC

Dell Data Center Solutions at a glance

The DCS organization is comprised of four primary businesses:

- DCS Classic for custom solutions

- PowerEdge C for hyperscale-inspired hardware

- Cloud and Big Data Solutions for building new cloud instances and driving big data applications

- Modular Data Center for right-sized container-style data centers

To learn more, visit:
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