



HP Performance Optimized Datacenter

Data sheet



Data centres throughout the globe are fast reaching their power, cooling and space limits – and rising costs are forcing businesses to rethink their data centre strategies. These limitations can interfere with technology deployment plans and directly influence business growth.

The HP Performance Optimized Datacenter (POD) provides scalable, efficient and ready-to-use data centre capacity delivered to your doorstep. Containerised data centres, or performance-optimised data centres, are the right choice if you are looking for an easy deployment that can deliver significant cost savings and technology agility.

Why choose the HP POD?

The HP POD delivers superior technology to provide flexible and energy-efficient data centres that can reach you in as little as six weeks – significantly reducing the time for data centre build-out. It offers configurations suitable for power or density, enabling you to upgrade or extend the capacity of your physical infrastructure quickly. The HP POD comes to you as part of a complete data centre product line, from strategy and planning to innovative products, and comprehensive global support.

The HP POD is now available in two sizes – 20-foot (6-m) and 40-foot (12-m) – and provides flexibility for a range of technology deployments. The 20-foot

(6-m) POD comes with 500U of rack capacity and ten 50U industry-standard width racks. It provides up to 290 kW of non-redundant power capacity or 145 kW capacity with N+N redundancy.

Features and benefits

High density

- Provides more density through support for up to 1600 server nodes or approximately 5400 hard drives
- Delivers power capacity of over 27,000 W per rack
- Offers the equivalent of 2000 square feet (185.8 m²) in the 20-foot (6-m)
- Provides capability for very high power density loads, using 700 W per square foot

Rapid expansion

- Enables rapid data centre capacity expansion

Flexibility

- Supports HP and third-party, industry-standard hardware with front-to-back airflow
- Provides a small footprint, is weatherised, and can be deployed as a standalone solution or as an extension of an existing facility
- Uses full-depth, 19-inch (482-mm) standard technology racks, allowing you to deploy the same technology brands and form factors that you use in your data centre

The HP Performance Optimized Datacenter delivers a fast, flexible and efficient path to data centre ROI (return on investment). You can deploy it within weeks instead of months, achieve greater energy efficiency than typical data centre build-outs and experience the advantages of a cooling infrastructure designed to house high-density technology.

Energy efficiency

- Allows for temperature control in the cold aisle, using the closely coupled cooling design
- Delivers a power usage effectiveness (PUE) ratio as low as 1.25

Redundancy

- Provides built-in power and cooling redundancy, including separate power feeds to the racks

Same data centre experience and serviceability

- Allows you to use your technology racks the same way you use them in your data centre – providing complete access to front and rear racks, without having to move them

Deployment and support

- Offers HP POD Infrastructure Services – a complete global range – from basic deployment to complete management

Ideal customer environments for the HP POD

Do away with ageing data centres: Built for yesterday's requirements, the ageing data centre has inadequate power and cooling capacity. Given these constraints, supporting the increasing power density and thermal output of today's technology hardware becomes difficult. Faced with the need to expand their own data centre environments, many companies have built new data centre spaces, with high costs and long lead times. In contrast, the HP POD allows you to add data centre space as you need it. With a short lead time, you can order and pay for additional capacity as your needs grow, instead of attempting to forecast future technology needs and construction project costs.

Disaster recovery: Disaster recovery sites are crucial, but with rising energy costs, there is often no budget to relocate your data centre to a new site. However, this does not have to deter you anymore. Location flexibility allows the POD to be placed in more energy-efficient areas, reducing the cost of your disaster recovery plan. In addition, the POD's small footprint allows it to be placed in existing network space.

Alternate data centre strategy: The traditional brick-and-mortar data centre design entails significant forecasting and planning for future growth, which requires you to build capacity that exceeds your current needs. It also limits technology to the capacities provided in the design. Alternatively, when you decide on a data centre strategy built around the POD, you can benefit from new levels of flexibility in deploying your technology resources. This allows for rapid expansion, if it is needed, in standardised and more manageable increments, and reduces risks in planning future growth. In addition to capital expenditure being managed more wisely, operating expenditure is decreased by reducing, unused data centre capacity.

Frequently asked questions

What kind of racks does HP POD have?

There are ten 50U full-depth industry-standard racks inside a 20-foot (6-m) POD.

What technology equipment do the POD racks support?

The POD racks support HP and third-party, industry-standard technology equipment with front-to-back airflow.

Can the POD operate outdoors?

The POD is weatherised and operable outdoors, but some minimal shelter is recommended to aid its security and serviceability.

Technical specifications

HP POD 2000c (North America)

HP POD 2000c (International)

Length (plus clearance)	22 ft (plus 2 ft)	6.7 m (plus 0.6 m)
Width	8 ft 6 in	2.6 m
Height	10 ft	3.05 m
Site length requirement	28 ft	8.53 m
Site width requirement	15 ft 4 in	4.67 m
Site height requirement	10 ft	3.05 m
Max container weight	50,000 lb	22,727 kg
Max equipment weight per rack	3500 lb	1587 kg
Standard ISO container spec.	Yes	
Power distribution	2 x 225 A busway	
Container load limit	Up to 291 kW non-redundant/up to 145 kW redundant	
Average power per rack (kW)	Up to 29 kW average non-redundant/up to 14.5 kW average redundant	
Max power per PDU	17.2 kW (max rack power 34.4 kW using 2 PDUs)	
Input power voltage	2 x 480 V 3 phase Delta, 400 A, 50 – 60 Hz	2 x 380 – 415 V 3 phase Wye, 400 A, 50 – 60 Hz
Voltage to rack	240 V, phase to neutral	
Cooling technology	Chilled water to heat exchanger, hot/cold aisle	
Flow rate	220 GPM	454 L/min
Temperature (max inlet)	55°F – 75°F	12°C – 24°C
Flange/pipe diameter	4 in/150#	10.16 cm/150#
Airflow per rack	1800 CFM	50.97 m ³ /min
Rack type	19-in industry-standard full depth	480 mm
Support for third-party equipment	Yes	
Max number server racks	10	
Available U space per rack	50U	
Total supported rack space	500U	
Max server nodes per container	Up to 1600 nodes using the HP ProLiant BL2x220c Server	
Maximum blade slots per rack	80	
Smoke detection (VESDA)	Yes	
Fire suppression	Optional	
Emergency power off (EPO) switch	Included	
Humidity monitoring	Yes	
Humidifier	Optional	
Building Management System (BMS)	Included	
Networking	2.5-in/6.35-cm pass through (6 at each end)	
Security	Key locks standard; others optional	
Operating min-max temperature	0°F – 130°F/18°C – 54°C (-20°F – 130°F /-29°C – 54°C with optional cold weather protection)	
Operating humidity range	0 – 100%	
Operating altitude	10,000 ft max	3048 m max

What preparations must be made to deploy the POD?

Provisions for chilled water, power and communication connections must be made. Additional information is available in the product's installation guide.

What types of services are offered for the POD?

Global deployment and support services, including site preparation, deployment and ongoing maintenance and support, are available for the HP POD. Additionally, we provide technology hardware configuration services through HP Factory Express; data centre consulting and design services through EYP Mission Critical Facilities (EYP MCF), an HP company; and financing options through HP Financial Services.

How does this compare to a traditional data centre in terms of energy efficiency?

On an average, typical data centres have a PUE ratio of 2.0+, which means that twice as much energy goes into the data centre as what is required by the technology equipment. In comparison, the HP POD has a PUE ratio as low as 1.25.

How does serviceability of technology equipment compare to that of traditional data centres?

The HP POD has a 36-inch (914.4-mm) cold aisle with a control panel, allowing technology equipment to be fully removed and serviced. Additionally, rear equipment access is provided by four sets of large double doors on the hot aisle. Technology serviceability is designed to allow the same access as a traditional data centre.

How quickly can HP ship the POD to my site?

The HP POD can be shipped from the factory in as little as six weeks from the time that a purchase order is received.

What are the options available for the HP POD?

There is a standard-density HP POD as well as a higher-density HP POD.

HP Services

HP POD Infrastructure Services provides complete integration, deployment and support for your data centre container environments. Designed specifically to help you build confidence and enhance your HP POD solutions, HP services and support can help you create a highly manageable service solution.

HP Factory Express services can build your HP POD solution to your specific design, into a ready-to-deploy solution. HP provides expert on-site deployment assistance for installation and setup of your POD infrastructure, helping you integrate your POD solution into your existing data centre technology infrastructure. The POD proactive support services provide ongoing service management to help you build and maintain a highly available and secure POD-based technology infrastructure that adapts to change.

We work with you to increase the availability of all the components of your POD and related technology environments. Beyond the container, the HP Data Center Transformation Services range is designed to address the most pressing data centre and business challenges, including ageing facilities, energy and space efficiency, business continuity, virtualisation and automation needs – delivering improved service levels to businesses.

Financial Services

HP Financial Services provides innovative financing and financial asset management programmes to help you cost-effectively acquire, manage and ultimately retire your HP solutions. For more information on these services, please contact your local HP representative, or visit: www.hp.com/go/hpfinancialservices

For more information

To learn more about HP POD products, software and services, visit: www.hp.com/products/pod



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