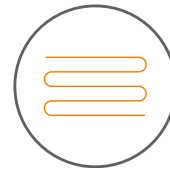
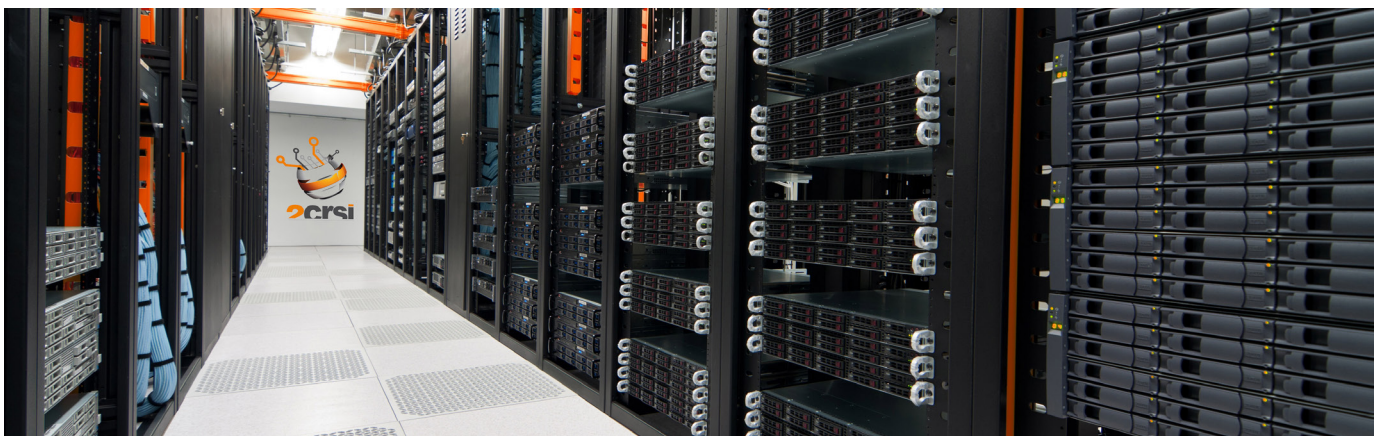


# OCtoRack 42 DLC Direct Liquid solutions



With the increase in demand for products and services made possible by artificial intelligence (AI), high performance computing (HPC) and the Internet of Things (IoT), we are witnessing a consequent densification and a sharp increase in the computing power of data centers.

In addition, the explosion in building construction costs, real estate costs in general and energy costs in a context where the environmental issue has become central, is pushing us to considerably increase the density of infrastructures, while at the same time thinking about solutions to build more ecological and less energy-consuming equipment.



## Traditional air cooling is not efficient enough to meet these new challenges.



Liquid cooling is a much more efficient way of transferring heat away from electrical components than air requiring far less energy for cooling.

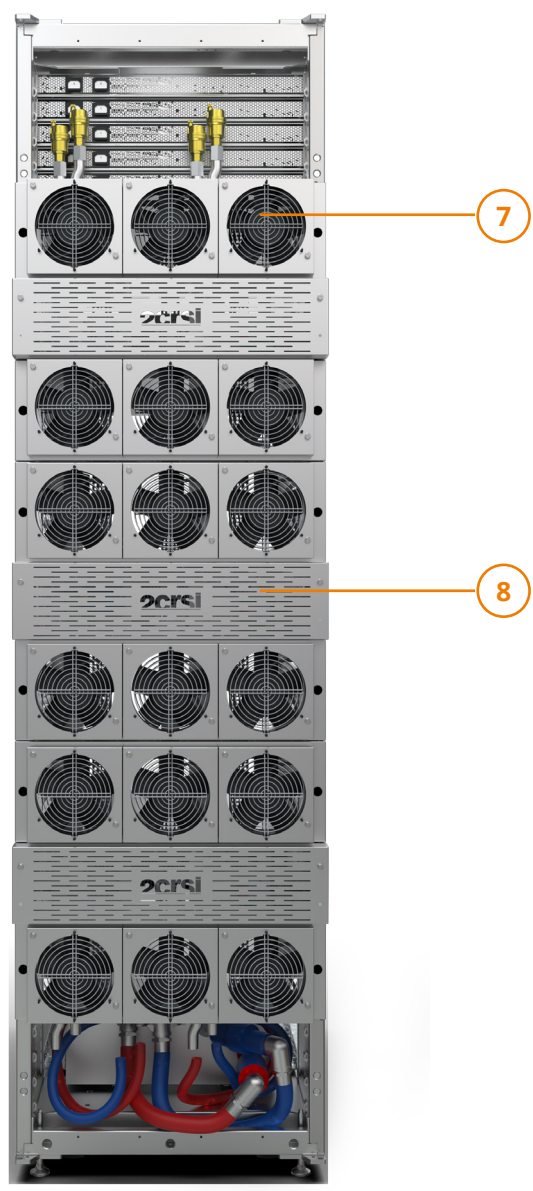
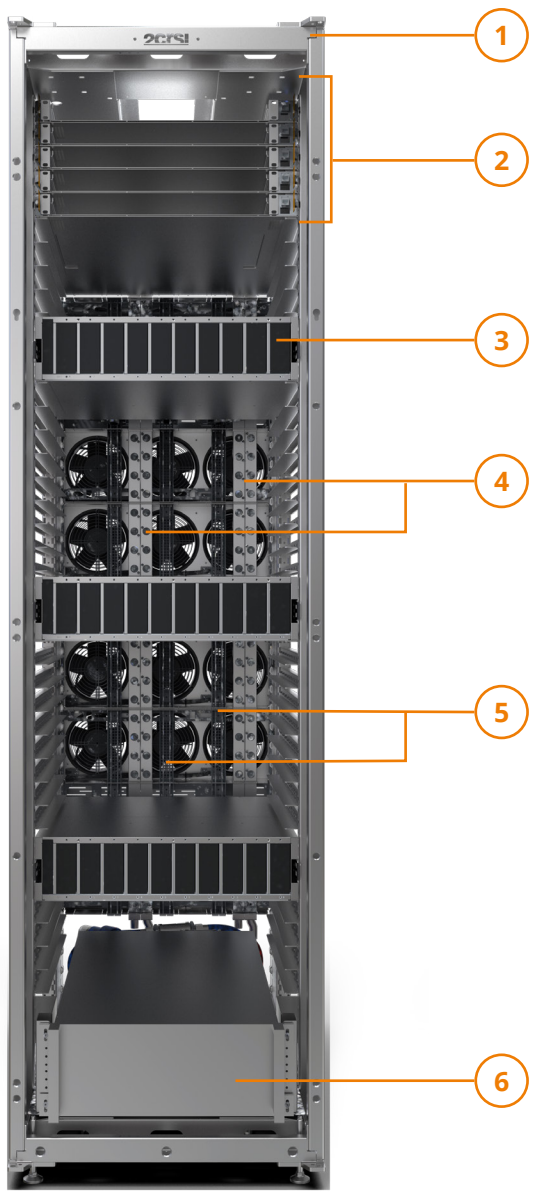
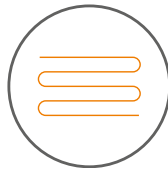
In addition, since air cooling equipment within a server such as large fans and heat sinks is not required, liquid cooling systems can support a much greater density of CPU and GPU components in each space, delivering greater compute performance per square foot<sup>4</sup>.

With this in mind, we designed a direct liquid cooling rack that includes manifolds with double shut-off valves to ensure hot-swappable liquid distribution to the servers at the rear of the rack and a coolant distribution unit at the server level.

In addition to the DLC, 18 fans ensure to keep remaining components cool to avoid SPOFs (Single Point Of Failure).

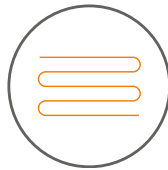
# OCtoRack 42 DLC

## Direct Liquid solutions



1	Rack frame	5	Busbar modules
2	Switch slots x5	6	Coolant distribution unit (CDU)
3	Power shelves x3	7	Fan modules
4	Manifold modules x2	8	Fan and power control modules

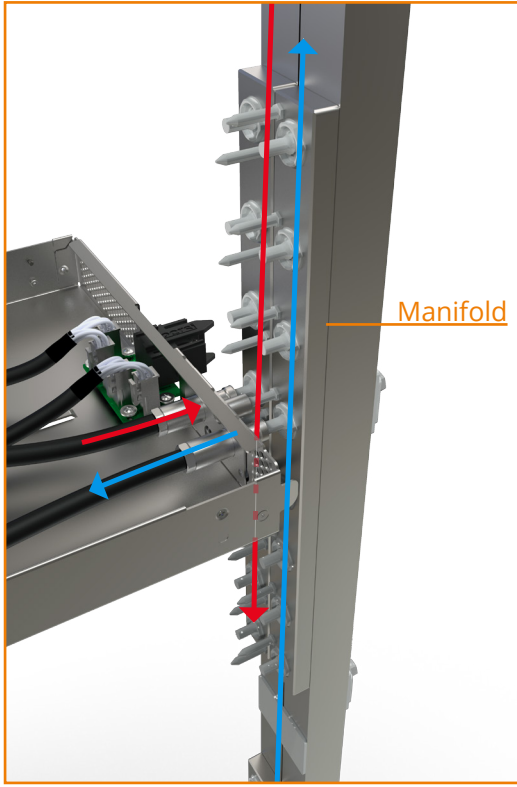
# OCtoRack 42 DLC Direct Liquid solutions



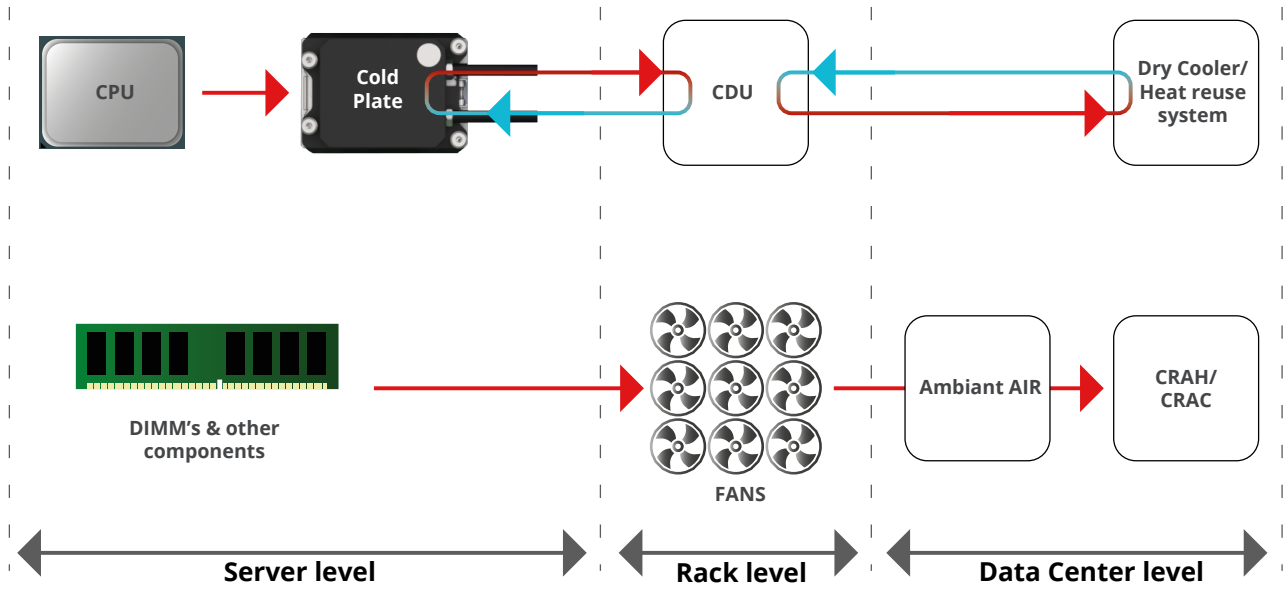
## OctoRack DLC brings high density to the next level

With up to 1.960 w on a single OpenRack Unit, our direct liquid solution enables for more IT equipment per rack than ever before with a **PUE of 1.08**.

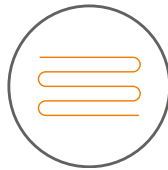
OCtoPus DLC solutions servers are equipped with leak-proof blind mate connectors to attach to the manifolds. No more pipes to disconnect during maintenance, just pull the server back to remove it.



## DLC operation diagram :



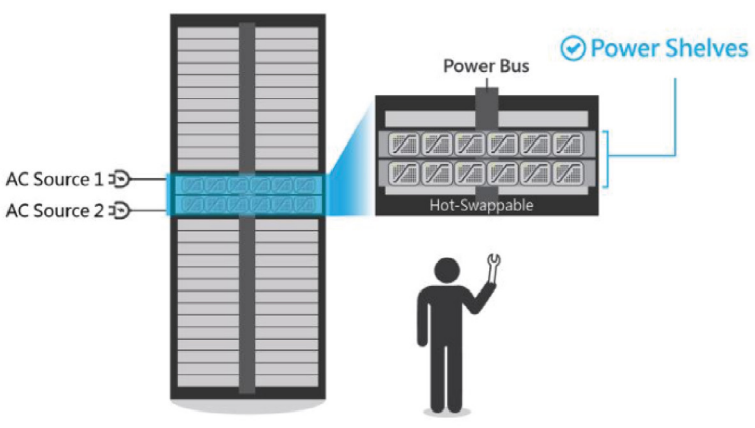
# OCToRack 42 DLC Direct Liquid solutions



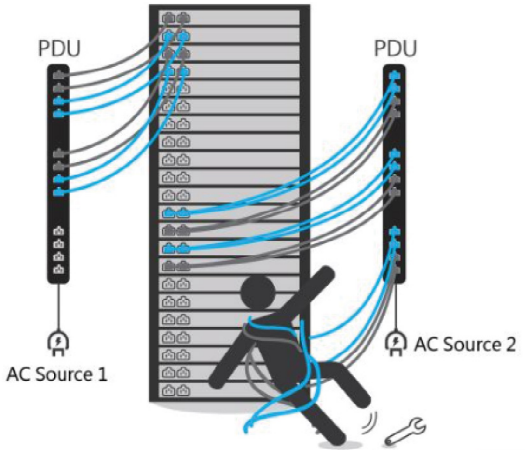
## Power distribution principle

Like all our OCToRacks, this one follows the power distribution principles of the Open Compute Project (OCP). The power distribution architecture of the OCTORACK 42 DLC is at the rack level. Unlike standard servers that have integrated power

supplies, the rack-level power distribution system of the OCTORACK 42 DLC groups all the power supplies into 3 power shelves and then distributes the 12 VDC through copper busbars from which the servers draw the power they need.



OCToRack



Traditional rack

This allows maintenance to be carried out at the front and avoids having cables at the back. This distribution also makes it possible to mutualize the PSUs and limits the number of electrical conversions, thus reducing power consumption.

The combine effects of our DLC system and busbar distribution allows an energy consumption saving of 23% compare to traditional EIA rack.

## Key Benefits



**Maximised performance and density**

- The density of the 21" server form factor allows you to increase the performance limits of traditional servers.
- Same footprint as standard 19" rack.



**Easy maintenance**

- Power supply, fans and servers are hot pluggable at the front.
- LED indicators.
- No tool required.
- No need to change the PSUs when changing the servers
- Integrated CDU



**Increased reliability**

- Server downtime is reduced.
- Fans and power supplies are mutualized.
- Redundancy of power supplies.

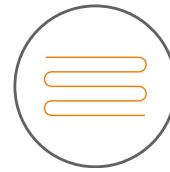


**Sustainability**

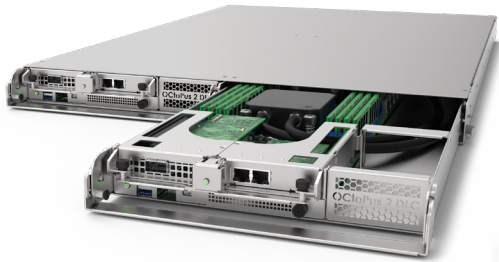
- By reducing power consumption, the OCToPus reduces CO2 emissions in datacenters.
- High density with efficient power consumption with a PUE of 1.08

# OCtoRack 42 DLC

## Direct Liquid solutions

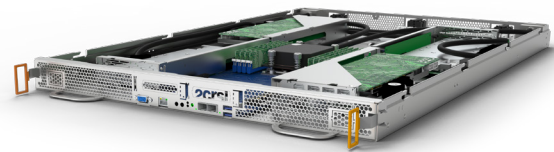


### Compatible solutions :



#### OCtoPus 2 serie

- 21" server form factor with drawer concept.
- Up to 2CPU per node (Intel or AMD).
- Up to 48 nodes in a single rack.



#### OCtoPus 1.4 serie

- 21" server form factor with 4 GPU/FPGA/Accelerator slots
- Up to 2CPU per node (Intel or AMD).
- Up to 96 GPU/FPGA/Accelerator in a single rack.

### Specifications :

Model	OCtorack 42 DLC
Form factor	Open Rack OCP
Height	42 OU
Dimension	2220 x 600 x 1190 mm (H x W x D) 87,4 x 23,6 x 46,9 inches (H x W x D)
Dynamic load	1200 kg / 2650 Lb
Power shelf	Options available: 27kW N+1 redundancy per power zone 18kW N+1 redundancy per power zone 15kW N+N redundancy per power zone
Input power	400VAC 3 phases 32A
Power receptacle	EC 60309 3P+N+E 32A
Noise disturbance	75-90db