



# Data Center Infrastructure Solutions

## Micro Modular Data Center Infrastructure Solutions

### System Overview

EAST Micro Modular Data Center is a highly integrated modular data center solution containing an integrated infrastructure, using isolated hot and cold airflow system, integrated cabinet system, cooling system, power distribution system, intelligent monitoring system, cold aisle containment system, equipment support system and more, makes it fast, easy and cost effective to design, procure and deploy the data center.

### Applications

Telecommunications, finance, public security, securities, transportation, tax, schools, medical system, Internet companies, small- and medium-sized enterprises and more. For different application scenarios, complete solutions are provided for different small, medium and large data centers.

### System Composition

The Micro Modular solution consists of basic modules and extensible modules which have been standardized and productized, while integrates installation works with antistatic flooring, base and bridge to enable the site works to be prefabricated in the factory.



### Basic modules

Basic modules are the power section of the whole micro modules, integrating UPS (or HVDC) with battery and PDU. One basic module has a space of total six cabinets. The quantities of UPS and power supply mode can be flexibly configured according to demands, the quantities of UPS, battery cabinets and distribution cabinets can be flexibly configured according to the power supply mode of UPS + mains power or UPS + UPS. The server cabinet can be placed in the remaining space.



Basic Module

### Extensible modules

Extensible modules are mainly the functional application part of the whole micro modules, integrating cabinets and refrigeration units. According to the number of integrated cabinets, divided into Extensible Module A which integrates 6 cabinets with 2 row-based air conditioners and Extensible Module B which integrates 4 cabinets with 2 row-based air conditioners. Arrange IT equipment power density according to the cabinet. Single unit 20 kW or 10 kW can be mainly selected for row-based air conditioners.



Extensible Module A  
(3 pairs of cabinets + 1 pair of air conditioner)



Extensible Module B  
(2 pairs of cabinets + 1 pair of air conditioner)



## Components of Micro Module



### Cabinet

PS cabinet  
Dimensions: W 600 mm × D 1200 mm × H 2000 mm (42 U)  
Standard cabinet including front door and rear door, not including side door, fixed plate and L-shaped rail.



### Row-based air conditioner

Dimensions: W 300 mm × D 1200 mm × H 2000 mm  
Front air supplying



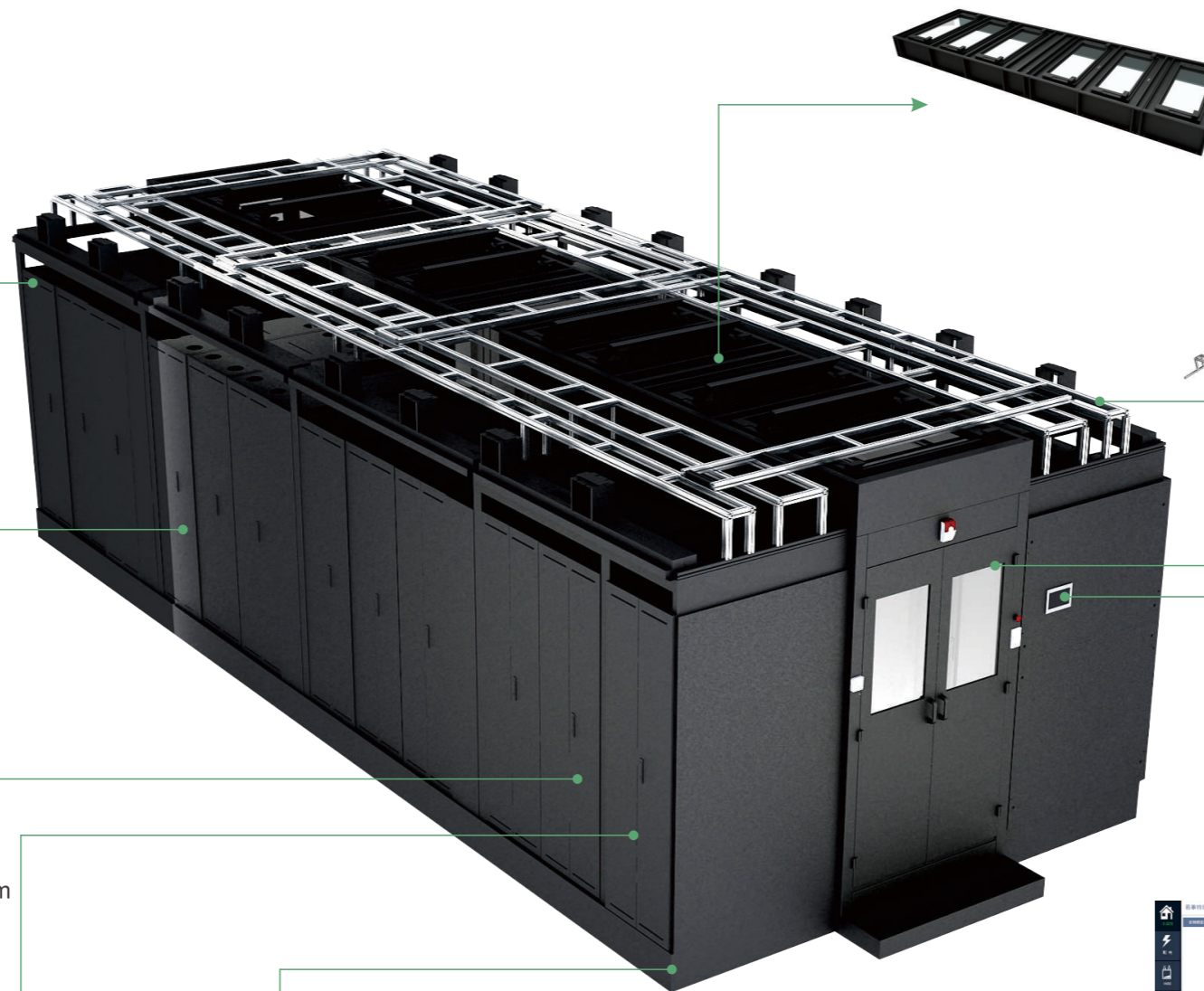
### Power supply

UPS or HVDC  
Dimensions: W 600 mm × D 1200 mm × H 2000 mm



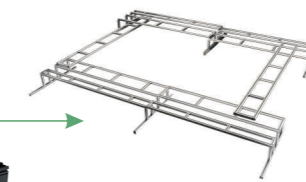
### Power distribution cabinet

Unified appearance for easy installation, wiring and maintenance  
Dimensions: W 600 mm × D 1200 mm × H 2000 mm  
Front door is opened outside of the micro module



### Cable bridge

- Use grid trough as standard
- W 300 mm × H 100 mm for High Voltage
- W 150 mm × H 100 mm for Low Voltage

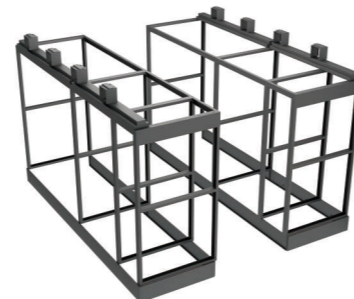


### Access door

Use sliding door which has standard access control system and door closers



### Integrated management system



### Frame structure

### Features of Micro Module

- Individual micro module provides data center solutions with a power range of 20 kW to 160 kW and meets layout requirements for single cabinet of 3 kW ~ 8 kW.
- Use centralized power supply mode and provide flexible cold aisle containment solutions when the power is greater than 160 kW.
- Users can choose the basic modules flexibly and freely increase or decrease the quantities and types of extensible modules according to the power and the quantities of cabinets.
- According to the air distribution design, users can choose the micro modular solution with strong configuration integrity, or can choose the cold aisle containment solution with a flexible frameless structure
- Factory prefabrication and rapid assembling on site provide assurance for rapid deployment of data centers, modular scalability and standardized construction.
- Centralize the cooling capacity to provide focused cooling for the heating equipment in the data center, which is highly efficient and can effectively reduce the PUE value of the computer room, so as to achieve the purpose of green energy saving.

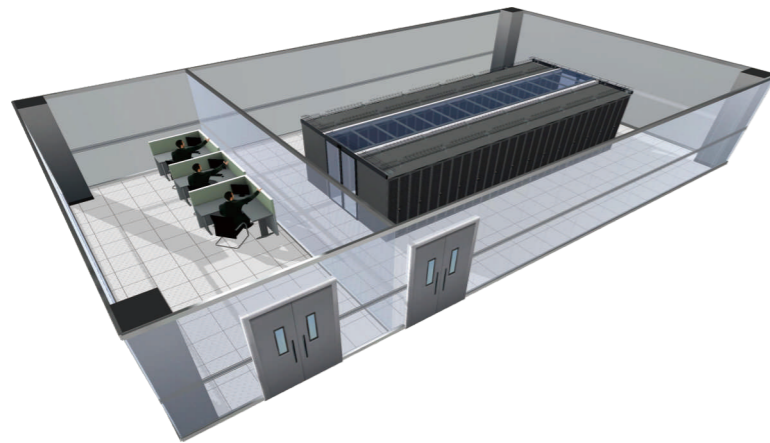


## Application Scenario

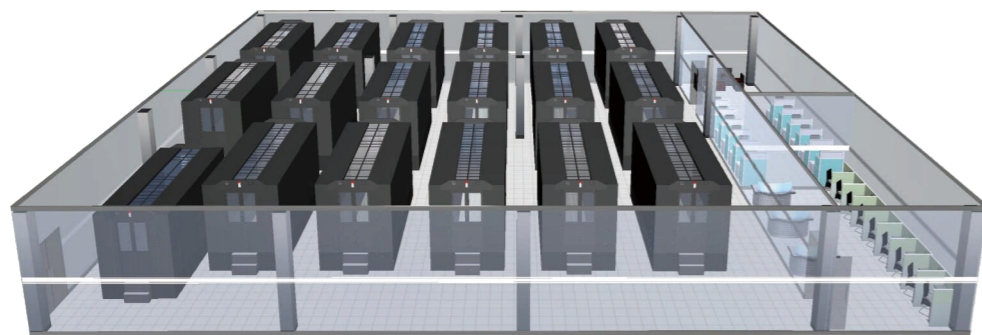
According to different application scenarios and requirements of the customer's data center, EAST can provide overall solutions to the data center infrastructure with flexible configuration.

Typical application cases of micro modules			
Scenarios	Typical configuration	Integrity Solutions	Flexibility Solutions
Small data center	1 basic module (add no more than 3 extensible modules)	The micro module is highly integrated with power supply, batteries, power distribution, refrigeration, integrated management and other subsystems, which makes it an independent and complete data center infrastructure solution	<ul style="list-style-type: none"> <li>Use centralized power supply mode, make UPS, batteries and power distribution external, or make parts of them external.</li> <li>Allow to select ordinary precision air conditioning, which is external and uses under-floor air supplying mode.</li> <li>Flexibly configure the micro module frame structure.</li> <li>The basic module is one or two array cabinets. The rest of the space is for the server cabinets.</li> </ul>
Medium data center	More than ten micro modules		
Large data center	N micro modules		

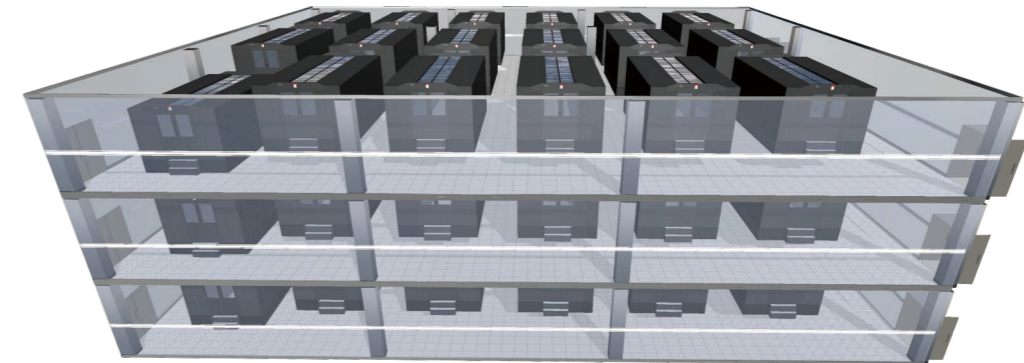
### Micro modular solutions for small data center



### Micro modular solutions for medium data center



### Micro modular solutions for large data center



## Application Example

The total power of IT equipment in a data center is about 100 kW, the power of single cabinet is designed based on about 6 kW, and the power supply mode of UPS+ mains power is selected. What solutions for it ?

### Micro modular solutions

Select one basic module and three extensible modules A. The modular UPS is configured with 160 kVA, the row-based air conditioner is configured with 20 kW each, as shown below.

