Alibaba Data Center Innovations

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Alibaba IDC Platform
Qiandao Lake Data Center

- 90% time does not require electrical refrigeration
- Average annual PUE 1.3, Minimum PUE 1.17
- WUE 0.197
Principle of cooling system

Taking heat outdoor
Principle of cooling system
Green Energy

- Photovoltaic system combined with 240V HVDC, to improve stability
- Heat recycling system for administrative area, energy saving
Zhangbei Data Center

- Free cooling technology
- AC direct supply
- 240V HVDC
- Heat recycling technology
Free Cooling Technology

- Average annual PUE 1.25, Minimum PUE 1.13
- Average annual PUE 1.25, Minimum PUE 1.13.
- Rich wind and photovoltaic solar energy in the city where DC located in.
Power Supply System

Dual UPS
Efficiency: 88% * 94% = 83%

AC direct supply & HVDC
Efficiency: (94% + 94% * 94%) / 2 = 91%

Dual AC direct supply (BBU)
Efficiency: 94%

Widely used
Small-scaled used
AC direct supply

Free cooling
- Direct free cooling, indirect free cooling, water cooling

Green energy
- Solar energy, wind energy, fuel cells, geothermal energy

Energy storage
- Lithium-ion battery, water
Thank you