
nextron
Building Your Solutions

An intro to…

Customized and High-Density Green Data Center Solutions

- A practical approach

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Nextron

Nextron - Reliable, Flexible and Dedicated

- Nordic system integrator of Servers, Storage and Workstations
  - More than 3500 systems annually - Steady growth: ‘Gaselle’ 7 times
  - Local Nordic presence with offices in Oslo, Stockholm, Copenhagen and Espoo
- Strong partnerships
  - Largest Supermicro Nordic distributor and NVIDIA Elite Partner
  - Intel, AMD, Samsung, Microsoft, Redhat and VMware
- Customized solutions at competitive prices
  - Flexible server- and solution configurators
  - 5 years warranty on servers and workstations - lifetime system support
  - Full product range – all operating systems
  - Delivering latest generation technology
- Server specialists
  - Systems assembled with comprehensive QA-procedures at our HQ in Oslo
  - Rapid response, enthusiastic staff, most with technical background

Supermicro
Data Centers & The Environment - 2021 Report

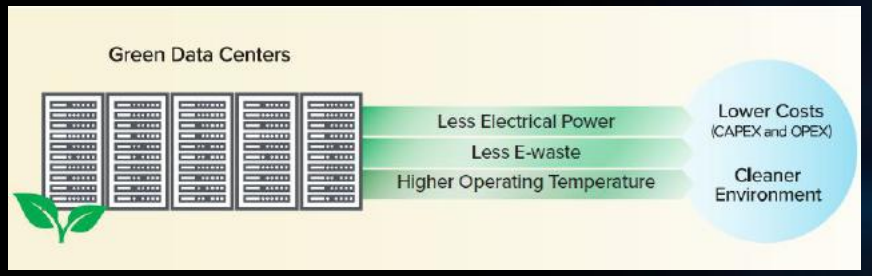
- The 2021 Report
  - Summer & fall 2020
  - About 400 qualified responses
  - Must be operator / decision maker of a data center
  - Worldwide response
  - Third year running the survey
- Download the full report:
  - www.supermicro.com/en/white-paper/datacenter-report

Total Cost to the Environment (TCE)

- Introduced by Supermicro in 2018
  - Measures the many ways a data center affects the environment
  - It's a practical approach, not a mathematical function

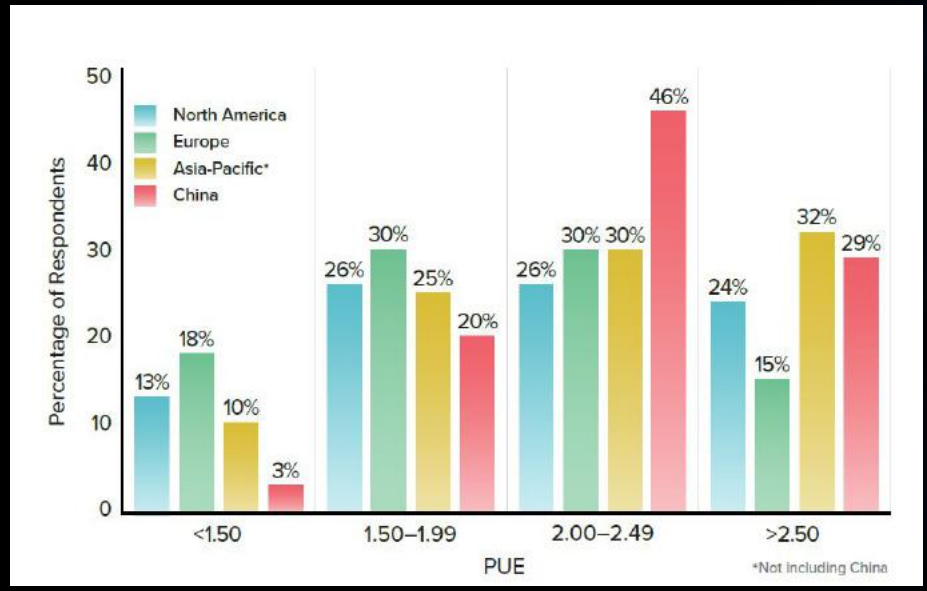
- TCE definition of a Green data center
  - Faster equipment refresh cycles, about every three years
  - Power density per rack above 25 kW
  - Equipment inlet temperature above 26°C
  - 100% Compliant decommissioning and e-waste programs

- Green data centers
  - Can save money while also reducing environmental impact



Power Usage Effectiveness - PUE

- Ratio that measures how efficient a data center uses energy
- Total Facility Energy / IT Equipment Energy
- PUE of 1.0 equated using all energy to power IT Equipment
- Lower PUE equals better TCE
- Europe in the forefront

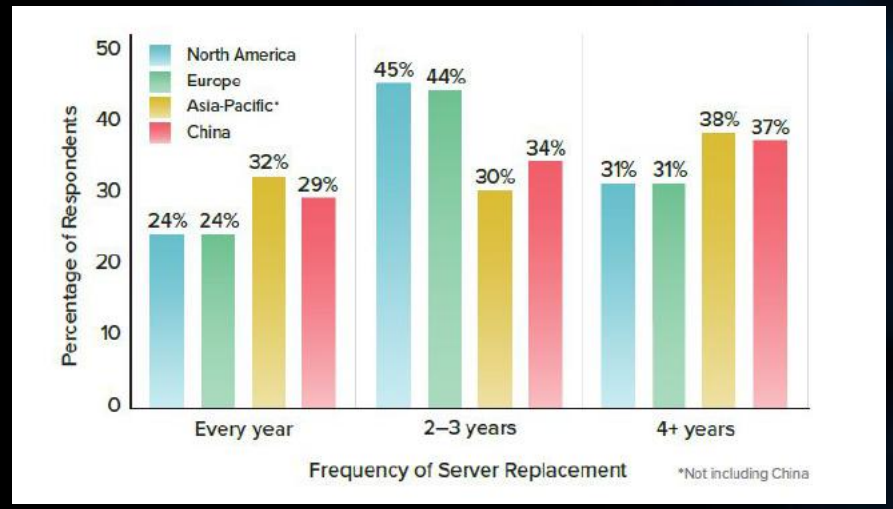


Major Finding #1

- Worldwide data center operators listed "Upgrading critical components" as their #1 area of investment in 2021
  - According to nearly 50%

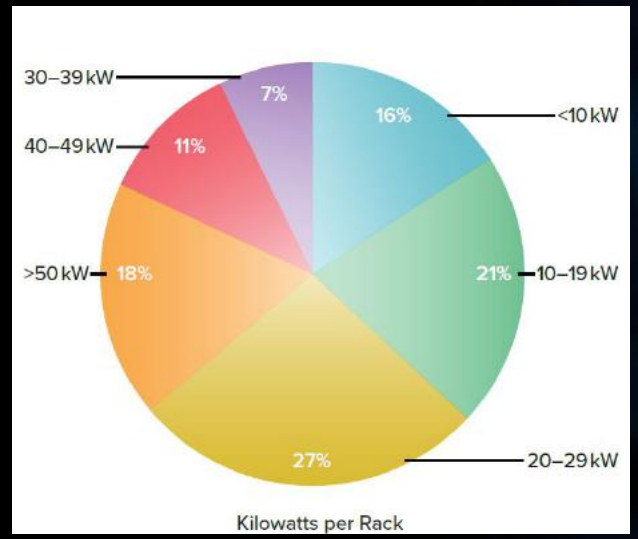
- North America & Europe
  - Almost 70% are refreshing their servers every three years or less

- Faster refresh cycles
  - Support more intensive workloads
  - More performance per watt



Major Finding #2

- A large shift in the reported power per rack
  - In 2019 survey the largest category was less than 10 kW per rack by 57%
  - In 2020 survey this category was only 16%
  - Largest category now 20-29 kW per rack by 27%
- More power to each rack
  - Drive better power efficiencies
  - Evidence that higher density computing is an important consideration for:
    - Saving on power costs
    - Saving on data center real estate
- Higher Density Servers with shared Power
  - Shared power – Higher Utilization

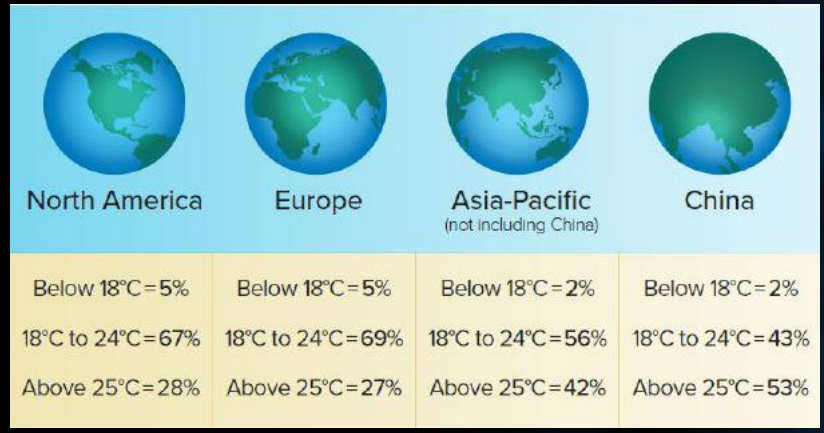


Major Finding #3

- Data center operators in the APAC region were willing to run their data centers warmer than their counterparts in North America and Europe

- Higher equipment inlet temperatures
  - Estimates are that for every 1°C increase in inlet temperature, AC requirements decrease by about 4%.
  - Can save cost by putting less demand on the HVAC system

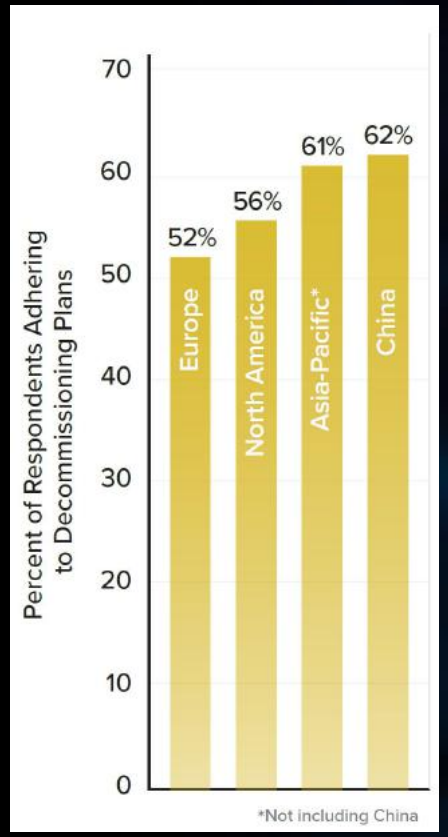
- Higher Density Servers with shared Cooling
  - Larger shared fans – More efficient cooling & less power



Major Finding #4

- Compliant E-waste and decommissioning programs were essential to over half of the respondents and they follow it

- A plan for decomissioning of equipment and E-waste
  - Critical component of TCE
  - Reuse of equipment – Decreased demand for new
  - Recycle & Reuse valuable materials – Decreased demand for new raw materials



Supermicro
Green Solutions

Disaggregated & High Density Servers

- Disaggregated Blade Servers
  - High Density – 8U Blade up to 0,4U per server
  - Shared power & cooling
  - Separate modules for Storage, Compute & Network
  - Enable independent upgrades of components

- Multinode Servers
  - High Density – 2U up to 0,5U per server
  - Shared power & cooling
  - Independent server nodes and I/O
  - Where blade servers are not the right fit

nextron

Supermicro High Energy Efficiency

- High Efficiency Titanium Power Supplies
  - up to 96,2%
- Optimized airflow design
- Liquid Cooling Solutions for Servers
  - 1000x More cooling capacity than Air
- Green500 #1 – MN-3 Supercomputer Deep Learning
  - Preferred Networks in Japan
  - Power: 61kW
  - 29,700 GFlops / watts
  - Total Performance: 1,822 TFlops (Linpack)
- Fortune 100 Company Data Center
  - Over 30.000 MicroBlade Intel Xeon Server Nodes
  - 1.06 PUE

Questions?

Come meet us at the stand!

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