Cluster Design (Each Blade)

# Device List

* Raspberry Pi Model B+ – 4
* Cooling Fan – 4
* Adafruit OLED – 4
* Network Switch – 1

# Device Power Consumption

* Raspberry Pi Model B+ – 6.7W (Under full load) : 6.7 × 4 = 26.8W
* Cooling Fan – 1.5W : 1.5 × 4 = 6W
* Adafruit OLED – negligible
* Network Switch – 3.9W
* Total power consumption = 26.8 + 6 + 3.9 = 36.7 ≈ 37W

# Device Current Consumption

* Raspberry Pi Model B+ – 1.34A (Under full load) : 1.34 × 4 = 5.36A
* Cooling Fan – 0.3A : 0.3 × 4 = 1.2A
* Adafruit OLED – 20mA : 0.02 × 4 = 0.08A
* Network Switch – 1A
* Total current consumption = 5.36 + 1.2 + 0.08 + 1 = 7.64A ≈ 8A

# Device Voltage Requirement

* Raspberry Pi Model B+ – 5V
* Cooling Fan – 5V
* Adafruit OLED – 3.3V
* Network Switch – 12V
* Required Leads – 12V, 5V , 3.3V

# Required Transformer Specifications

* Voltage – 12V, 5V , 3.3V
* Current – 8A
* Power – 37W

CONCLUSION: USE Computer SMPS