



# AFRICA ADAPTATION PROGRAMME

*Supporting Integrated and Comprehensive Approaches to Climate Change Adaptation in Africa*



## E-Infrastructure Technical Specifications

### 1. High Performance Computing (HPC) Server Specifications

A high quality file server for the storage of climate data and information in respective AAP countries. The server must be reliable with redundancy built in to ensure long term reliability. It must be capable of being accessed remotely.

#### **Specific minimum technical requirements:**

- Processor:
  - Minimum 6 cores, preferable 12 cores;
  - Frequency: minimum 1.9 Ghz, preferable 2.3Ghz;
  - Must support DDR3-1333 RAM;
- Mainboard:
  - Single mainboard;
  - Must support 2 or more sockets;
  - Must support DDR3-1333 RAM;
- Memory/RAM:
  - Minimum 24 GB, preferable 48 GB;
  - RAM should be expandable up to 64GB;
  - RAM should be DDR3-1333 Reg. ECC or better
- Storage and RAID Controller:
  - Minimum: 12 number of hard drive bays: Preferable: 16 bays or more;
  - Minimum: 8 disks. Preferable: 12 Disks or more;
  - SATA or SAS disk acceptable;
  - Disk size: Minimum 1 TB each, preferable 2 TB each;
  - RAID controller should support all of RAID 0, 1, 5;
  - RAID controller should support either Raid 01, 10 or 1E;
  - RAID controller must have either battery backed or flash backed write cache;
  - Write cache size must be minimum 512MB, Preferable: 1GB;
- Connectivity:
  - At least 2 network card gigabit Ethernet or better;
  - 1 x Dedicated BMC / IPMI 2.0 (onboard) for remote management control;
  - Minimum 1 10/100 Ethernet card for remote control;
- Software Compatibility
  - All hardware components should be compatible with Linux CENTOS 5.5;
- Power Supply (Dependant on country)
  - Redundant power supply;
  - 230V;
  - European Plug;
- Further Expansion



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- At least 2 PCI-express slots available ;
- DVD RW drive
- Rack mountable case
- Maximum 5U rack space

### **Other requirements:**

- 3 year warranty
- Onsite parts/labour warranty for use in specific country.
- If on-site service is not available in the above countries, then a courier based service for replacement parts is required. Courier service is to be at the cost of the supplier for replacement parts after remote diagnosis. Maximum 10 business day turn-around time required. The warranty must not be voided by replacement of parts by local staff.
- Should remote diagnosis not be available, the whole unit must be shipped back to the supplier for repair and/or replacement at the supplier's expense.
- Full delivery required within 30 days.
- No software required.

## **2. Uninterrupted Power Supply (UPS) Technical Specifications**

### **Specific minimum technical requirements:**

- The UPS must be of a suitable size to support the server as described below.
- The UPS must be able to communicate with the server to switch to low power operation, and later turn the server off.
- On switching to battery power, the UPS must communicate this to the server. The server will stop all CPU-intensive computation. The UPS must maintain this for a minimum of 55 minutes.
- The UPS must signal to the server when it is low on battery power – this must occur when there is still at least 5 minutes of battery power available and at least 55 minutes after initially switching to battery power. The server will be configured to shut down which can take up to 5 minutes.
- Should mains power be restored before shutdown is triggered, this must be communicated to the server so that full computation can recommence.
- All cards and any licenses must be supplied and installed.
- The UPS must be rack mountable.

### **Other requirements:**

- 1 year warranty.
- Onsite parts/labour warranty for use in country.
- If on-site service is not available in the above countries, then a courier based service for replacement parts is required. Courier service is to be at the cost of the supplier for



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replacement parts after remote diagnosis. Maximum 10 business day turn-around time required. The warranty must not be voided by replacement of parts by local staff.

- Should remote diagnosis not be available, the whole unit must be shipped back to the supplier for repair and/or replacement at the supplier's expense.
- Full delivery required within 30 days.
- No software required.