

## Communications Room Design - Campus Wide

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### Background

This design highlighted below in this document is based on design standards of communications rooms for the department of Human Services Victoria (DHS) metropolitan and regional.

This document is incorporated as part of Data Centres, Planning & Operations Group '*Design and Management Standards*' document forms part of the Property and Campus Services building construction and renovation plans. Thus, aligning Information Services requirements with Property and Campus Services infrastructure and planning.

Any building construction or building remediation works that have a potential effect on Information Services facilities and/or services require involvement and signoff from the Information Services division. This will be achieved through the joint IS and P&CS CANAS PCG.

This document also includes modifications in relation to the needs of the University of Melbourne sites should take the following into account:

### General

Below are the highlighted points of requirements for these types of spaces and will generally be noted as NaTH3 or NaTH2 facilities. Please refer to the document

*"Computer and Network Accommodation Strategy ("CANAS")-Generic Needs Brief"* dated 'Final 8<sup>th</sup> February, 2006'.

Reference to existing building code regulations according to Australian standards also needs to be taken into account. Example 'smoke detectors'.

It is also noted here that these requirements are flexible and will be addressed on a case by case basis however, it is important that these standards are stated providing a sound benchmark for construction/remediation.

- Access will be restricted to authorised Information Services personnel;
- Must be lockable, proximity access card;
- Have adequate lighting to ensure clear visibility of all components front and rear of racks/cabinets;
- Be positioned to avoid any excess dust, and be fitted with anti static vinyl flooring preferably, but not required for NaTH2 & 3 rooms;
- Have a fire extinguisher of the "High Voltage foam type." Dry chemical or CO<sub>2</sub> extinguishers are NOT to be supplied. If however the high voltage foam type is not available within timeframes for completion of a project or time to supply has a considerable lead time deemed to be unacceptable or poses a heightened risk, then the CO<sub>2</sub> type will suffice;
- Smoke detector (refer building code) or at larger sites, such as NaTH1, there may be a need for a VESDA;
- UPS protection required where network switches or servers are housed. Size to be determined on an individual basis;
- Captive 32amp GPO's installed on a separate circuit are required for each communications cabinet. GPO's are to be placed either 200mm from the floor as close as possible to the racks or inside existing mains ducting. In the case of multiple cabinet PDU's, a separate captive outlet must be provisioned for each PDU. This again will be dependent on rack UPS installation;
- Surge filter protection device fitted from the captive outlet to the cabinet PDU is recommended but not mandatory. Where a UPS is installed in the cabinet, the surge filter protection device will be fitted between the captive outlet and the UPS and the UPS will then connect to the cabinet's PDU(s);
- Clearance to the front and rear of the cabinet is recommended to be 1 metre and must not be less than the rack/cabinet door width plus 150mm;
- Grounding of communications cabinets is required and must be referred to the vendor providing the rack/cabinet infrastructure. In the case of UoM that will be with Panduit or AFC;

## Schematic Design

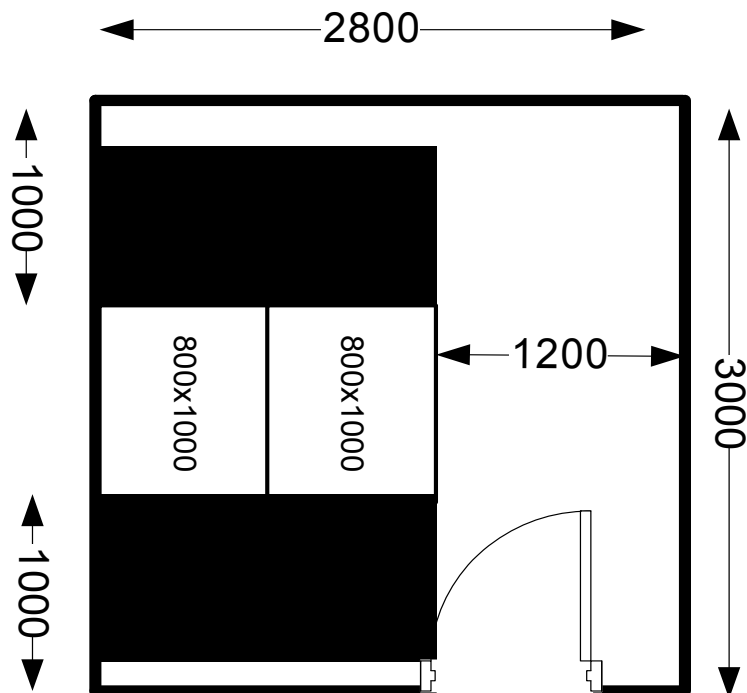
The two example layouts below illustrate *minimum* room dimensions and are intended as a general guide for medium and large sized sites with file servers/ network switches.

UoM will specify a suitable room size for individual sites. Additional space may be required if a PABX is also to be located in the room. Regardless, it is essential that discussions occur with IS through the CANAS PCG as requirements vary from site to site and over time as technological requirements change.

## Medium Site

### Communications Cabinets

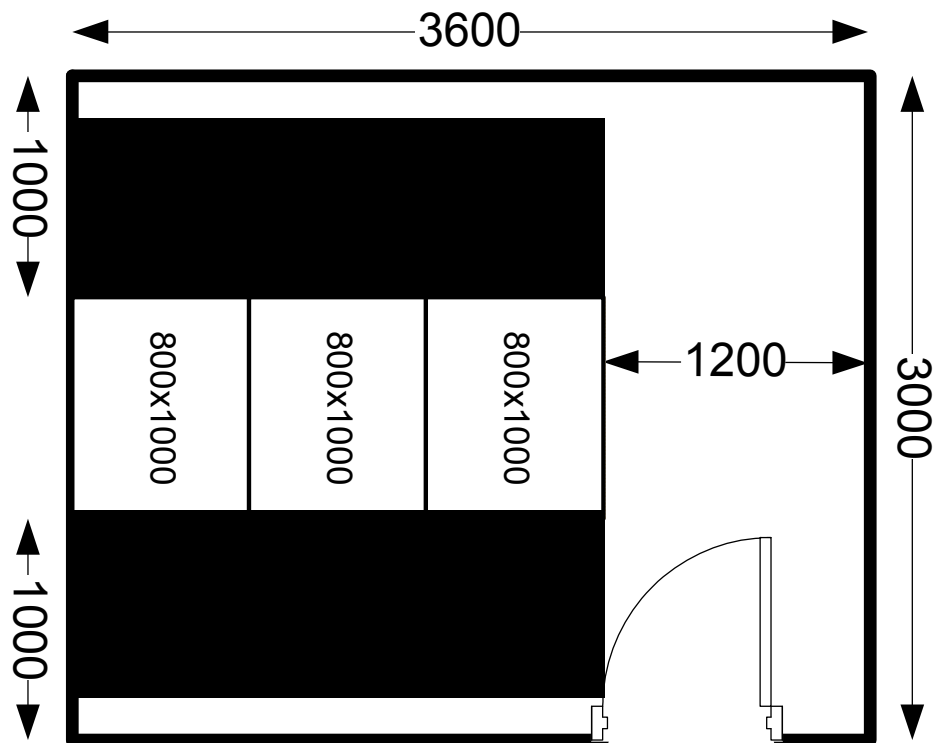
1000 deep  
800 wide  
2100 high  
560 door swing



## Large Site

### Communications Cabinets

1000 deep  
800 wide  
2100 high  
560 door swing



## Air Conditioning

- Where the room will house network switch(es) or a server(s), a separate dedicated, automatically controlled, precision air conditioner (PAC) unit is to be installed.

The air conditioner should be able to maintain a temperature range of 20 to 22°C for the equipment to be installed. It is important to make an allowance for 30% growth in equipment based on future assessment of needs for that room. UoM DCP&O can provide a list of equipment for the site.

The PAC unit should also be an inverter type for reduced energy usage.

- Where the room will not house network switch(es) or a server(s), the existing building air conditioning should be ducted into the room and a temperature-activated fan installed into the ceiling of the room above the cabinets. The room should have adequate ventilation to allow for the in draw of air;