

# Pakistan Institute of Engineering & Applied Sciences (PIEAS)

## Computational & Internet Services Division (CISD)

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### **Policy on the distribution and designation of Internet Protocol (IP) addresses and hostnames**

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#### **1. Overview**

The purpose of this policy is to describe the distribution and designation of IP addresses and hostnames on the PIEAS' network maintained by CISD. The Policy is maintained and regulated by CISD and is cross-referenced to, and by, a number of other Institute policies and regulations. The Policy will be made available to users of the network and related services and facilities. There will also be periodic review of the Policy and, if necessary, amended from time to time. This will be necessary with regard to the expected developments of the system, the operational use of the system and generally recognized best practice. The network is provided by the Institute to support its primary role of education and research and associated functions related to this role.

#### **2. Statement of Authority and Scope**

This policy is intended to detail the rules for the use and designation of IP addresses and hostnames for all members (generally officers, staff and students) of the PIEAS, who use the University Network and related services. This policy applies to all hosts connecting to the network either physically or virtually. The Policy is applicable to all members of the University including staff, students and other authorized users of University IT facilities. The University complies with and adheres to all its current legal responsibilities including Data Protection, Electronic Communication, Computer Misuse, Copyright and Intellectual Property.

#### **3. Statement of Responsibilities**

Individual users are responsible for their own actions. The use of the network by individuals at PIEAS assumes and implies compliance with these policies without exception. Every maintainer of hosts on the network has a duty to ensure they practice appropriate and proper use and must understand their responsibilities in this regard. Senior management of Computing Services will be responsible for ensuring heads of Faculties, Departments, Divisions, Sections and Units are aware of this policy; they in turn will be responsible for informing their people of this policy.

CISD is responsible for publishing and maintaining all the relevant IP and hostname data through a hosts file and DNS. CISD will maintain a contact address through which queries about the data and other issues relating to the network should be made.

Computing Services is responsible for IP policy as a whole. Certain areas of IP allocation and naming will be delegated to named local supporters. This will be with the full cooperation and support of Computing Services.

#### **4. IP/hostname registration**

Only authorized users of the Institute computer systems are entitled to use PIEAS hostnames and IP addresses on the network. All hosts connected to the network must have a registered IP address and hostname. Hosts that are not registered will be given 24 hours to register after which their LAN access will be terminated. Registration of hosts is through [helpdesk@pieas.edu.uk](mailto:helpdesk@pieas.edu.uk).

#### **5. Statement of delegation of IP registration authority to named supporters**

CISD will maintain a list of delegated IP ranges and hostname prefixes. A link between each range and its recognized IT supporters will be made. For a delegated range, instructions to add or modify the hosts/DNS database will only be accepted from those recognized support groups associated with the range in question. Any other requests received by CISD, for which a support group is defined, will be forwarded onto the respective IT support group for their attention.

#### **6. Hostname conventions**

All hosts should have a unique name that is registered in the hosts DNS; the unique name will be registered so that reverse lookups are self-consistent. For efficiency and fairness naming has been codified. In general, for end hosts, these take the form "departmentName-ext" where "dc" is a 2-character department code and "-ext" is a telephone extension which ensures uniqueness and does not violate RFC 1034, 1035 or superseding RF's (e.g DCIS-3128). CISD reserve the right not to implement a proposed hostname if it is considered to be inappropriate.

Superseding conventions will not be applied retrospectively. Additional address records or aliases may be considered for servers, this is designed to allow continuation of services e.g. Dept web server.

#### **7. Document history**

Background

- Policy on the distribution and designation of IP address's and hostnames - Technical Background
  - - 1. Background to IP network
    - 2. Hostname conventions

##### 1. Background to IP network

PIEAS has been delegated the public "Class A" network 111.68.99.192/27. CISD has assigned private IP address of class B 172.30.0.0/16 to PIEAS network. For ease and efficiency of use it has been subnetted into 24-bit mask subnets - traditionally these have reflected the geographical layout of the network (with 1 subnet per building). For ease of use and identification a convention has been applied to the employment of these names. Full details are given in the later hostname conventions section.

##### 2. Hostname conventions

CISD has finalized hostname convention Department Name-telephone extension for the office PCs. For example:

DCIS-3128  
CISD-3634  
DNE-3363  
DCMS-3601  
DPAM-3039 etc.

IP address assigned to different Block and Hostels

<b>Building Name</b>	<b>IP address assigned</b>
A-Block	172.30.11.0/24
I-Block (Computer Center+DCMS)	172.30.12.0/24
B-Block	172.30.13.0/24
C-Block	172.30.14.0/24
D-Block	172.30.15.0/24
E-F Block	172.30.16.0/24
Hardware Lab CISD	172.30.17.0/24
DTD Building	172.30.19.0/24
Hostel-A	172.30.21.0/24
Hostel-B	172.30.22.0/24
Hostel-C	172.30.23.0/24
Hostel-D	172.30.24.0/24
Hostel-E	172.30.25.0/24
Hostel-G	172.30.26.0/24
Hostel-H	172.30.24.0/24