LAN Addressing Standards

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1.0 TCP/IP Addresses

TCP/IP (Transmission Control Protocol / Internet Protocol) is a network protocol that provides routing across interconnected networks make up of computers with diverse hardware architectures and operating systems. Its addressing identifier (the IP address) consists of 4 sets of 3 numbers separated by decimal points, e.g. 159.245.080.142. n.b. leading zeros can be ignored.

GEC ALSTHOM Large Generators, being part of the GEC ALSTHOM Data Network must conform to a set of addressing standards that enables simple and secure routing of data throughout the Data Network . As a company, we have been allocated a range of IP addresses by the *Computer Services Manager at Large Steam Turbines, Trafford Park,* as defined below:

Address Range 1	159.245.80.1 to 255
Address Range 2	159.245.81.1 to 255
Address Range 3	159.245.82.1 to 255
Address Range 4	159.245.83.1 to 255

hence a total of 1024 addresses are available for use at Large Generators. For the foreseeable future, address range 1 should provide sufficient addresses to cover the initial PC installation.

Each item of equipment that interacts with the Ethernet requires an address, of which the first nine numbers will be identical. The allocation of the last three numbers (the index) of the IP address is dependant to some extent upon the type of equipment that is allocated to, as defined in Appendix 1 and summarised in Appendix 2.

2.0 NetBeui Addresses

NetBeui, being a non-routable protocol stack does not make use of addresses as such, instead it makes use of a computer name that WFWG assigns to any computer that has Microsoft Windows network connectivity. The basis for the computer name is a six character address, following the convention specified below

GSE{T}II{I}

where GSE is common to all 'NetBeui addresses'.

T is an identifier represents the type of equipment that the address is allocated to, see Appendix 1. In the case when the equipment represented is a PC, no identifier shall be used.

I represents a 2 or 3 digit indexing portion of the address, again following specifications stated in Appendix 1.

3.0 Address Allocation

At the point when a new item of equipment is being introduced to the network, an IP address and 'NetBeui address' must be assigned to that piece of equipment in the address log, even if that equipment does not necessarily need one at the moment, e.g. a PC that does not have TCP/IP installed will still have an IP address allocated to it even though it does not make use of it.

A record of all addresses allocated to machines is maintained in the database *j:\bsd\sys_supt\inventry\assetreg.mdb*

Appendix 1: Node Types

Gateways / Routers

Any equipment associated with gateways and routers shall have an index number that falls between 01 and 20 inclusive. The suffix for the 'NetBeui address' shall be G. e.g. GSEG01.

Processors

Any equipment associated with major processors such as a MicroVax or the NT-AS server computers shall have an index number that falls between 21 and 40 inclusive. The suffix for the 'NetBeui address' shall be P. e.g. GSEP21.

Service Providing Equipment

Any equipment associated with providing services, such as print services shall have an index number that falls between 41 and 80 inclusive. The suffix for the 'NetBeui address' shall be S. e.g. GSES41.

Workstations

Any equipment that utilises UNIX as its primary operating system, such as the HP workstations shall have an index number that falls between 81 and 100 inclusive. The suffix for the 'NetBeui address' shall be W. e.g. GSEW81

Client PCs

All equipment classed as client PCs shall have an index number that falls between 101 and 255 inclusive. No suffix shall be used in the 'NetBeui address'. e.g. GSE101.

Appendix 2: **Addresses Summary**

	NetBeui Address Range				
TCP/IP Address Range	GSEG	GSEP	GSES	GSEW	GSE
159.245.80.1 to 255 1-20	21-40	41-80	81-100	101-255	
examples (TCP/IP)	159.245.80.1	159.245.80.21	159.245.80.41	159.245.80.81	159.245.80.255
examples (NetBeui) gseg01	gsep21	gses41	gsew81	gse101	