LAN DISASTER RECOVERY PROCEDURE

Preliminary

A single point person must be established who will take overall responsibility for the co-ordination of the disaster recovery actions. That person must ensure that the following procedures are followed and that any faults and remedies undertaken shall be recorded. That person is also responsible for ensuring that the whereabouts of staff doing delegated work are known and for ongoing communication with them.

The following steps should be undertaken and delegated where appropriate.

1.0 Take System Away From Users

1.1 Users must be promptly informed (preferably by means of the tannoy system) of the requirement exit the system if they are currently using it, or to stay out if they are not currently using it (messages must clearly state what services are unavailable and what services are still available e.g. GWAYA & P2000;

1.2 Where possible, an indication should be provided of the expected length of time that the service will be unavailable to them;

1.3 Users are to be advised that if the downtime will cause them serious problems they should call the helpdesk;

1.4 Critical users should be identified and local services provided for them if appropriate, as well as instructions for migrating them back onto the LAN services when they become available again.

1.5 Users should be informed of any data loss that they will incur, if appropriate;

1.6 The IT manager should be made aware of the situation.

2.0 Establish where the Problem lies

It is imperative that the source of the problem is established as quickly as possible. The type of problem could be any of the following:

- Cabling (fractured cable / bad connection);
- Cabling (heavy traffic);
- Cabling (corrupt traffic (packets));
- Hardware (fileserver);
- Server operating system;
- Server applications.

3.0 Place Support Calls

3.1 - The disaster recovery coordinator must be aware of the contractual obligations of our support suppliers.

- The calls made to the suppliers should be logged to enable monitoring of the supplier's performance.

-An entry should be made in the system downtime log book.

3.2 Azlan should always be called and the following points born in mind:

- Is there information in the event log on the server;
- What are the messages users are getting on their screen;
- What recent changes have been implemented in the system;
- Will it be possible to provide a remote access service to Azlan

3.3 Rockliff should be called if the problem is suspected to be hardware related

- The immediacy of the problem should be conveyed to Rockliff;
- Rockliff need to be clear about what will be required of them, i.e. if they will need to bring with them spare servers, spare disks, etc.;
- The engineers must be familiar with the NT operating system and Compaq Proliant hardware.

3.4 GEC-CS, the Hollies may need to be called

If it is felt appropriate and that value can be gained then the Hollies should be contacted, this is especially pertinent if the problem is identified to be one associated with cabling. The suggestion should be made to use any available cable / traffic interrogation equipment

4.0 Disaster Scenarios

It is not possible in a procedural document such as this one to identify all of the possible disaster scenarios that could be encountered on the LG LAN. This section identifies some typical disaster scenarios and points to the appropriate appendix that gives guidance on recovery from that scenario.

4.1 *Single server failing*

Lotus / WordPerfect, etc. appear to have become corrupt;
Sharing violations become widespread;
A hardware component fails on the main server;
The operating system on the main server fails.
See Appendix 1.

4.2 *The registry become corrupt on the main fileserver*

4.3 *Both servers failing*

The account database on NT becomes corrupt;

The server operating systems run out of resource;

Hardware fails simultaneously on both servers.

See Appendix 2.

4.4 *Destruction*

A fire reduces the computer room to a pile of ashes;

A disgruntled employee gains access to the computer room and causes wilful malicious damage to the servers.

See Appendix 3.

4.5 *Virus infiltration*

A virus becomes identifiable on the system

See Appendix 4.

APPENDIX 1: Single Server Failing Recovery Routines

e.g. Primary domain controller

1 Ensure that the users are logged off.

2 Stop the NETLOGON services on the fileservers

3 Restore the last daily backup of GSEP21 to the backup fileserver (GSEP22)

4 Change the flag setting file in the *scripts* directory to *backup.use* (see log_scrt.w61)

5 Promote the backup fileserver to be the primary domain controller

6 Re-boot the backup fileserver

7 Test the fileserver services from BSD

8 Test the fileserver services from selected administrators

9 Inform users that the system is available again

Transfer of Users Back to the Main Fileserver

1 Decide when to recover data to backup fileserver (preferably at weekend)

2 Inform users that network services are not available during that time

3 Do a full backup of the backup fileserver

4 Format the drive on the main fileserver

5 Restore the data from the backup fileserver

6 Change the flag setting file in the *scripts* directory to *normal.use* (see log_scrt.w61)

7 Demote the backup fileserver

8 Promote the main fileserver to be the domain controller

9 Re-boot the fileservers

APPENDIX 2: Both Servers Failing (assuming that the hardware is recoverable)

If both servers fail, but can be recovered, the following tasks need to be undertaken:

A. Ensure that the Following Items are Available

1.0 Original repair disk
2.0 Latest repair disk
3.0 System DAT
4.0 Data DAT
5.0 Windows NT Setup Disk
6.0 Windows NT Service Pack 3 Disks
7.0 Compaq Drivers & Utilities Disk
8.0 Spare Floppy Disk, will be used for creating a new Emergency Repair Disk

B. <u>Perform a full System Re-Build</u>

1.0 Insert the NT setup disk (floppy disk 1) into the server
2.0 Insert the NT CD-ROM disk into the server
3.0 Shutdown and restart the server
4.0 *Follow the on-screen instructions*
4.1 Select new installation option
4.2 Select custom install
4.3 Select install from a CD-ROM
4.4 When prompted change keyboard to UK keyboard, accept all other recommendations
4.5 Delete all partitions
4.6 Create new partitions as per the previous install

e.g.	C-Drive	300MB	NTFS
	D-Drive	3350MB	NTFS
	Remaining		FAT

4.7 Format the partitions
4.8 When prompted for NT install directory, ensure that the directory entered is exactly the same of the install directory prior to the failure & which is hence on the DAT backup tape, e.g. C:\WINNT
4.9 Skip the exhaustive examination of the disk, unless there is suspected corruption
5.0 Restart the server
6.0 *Follow the on-screen instructions*

6.1 Select NT Server 3.51 on startup options

6.2 Select backup domain controller (or primary domain controller, as appropriate)

6.3 Set licencing to per seat

6.4 Set computer name (e.g. GSEP22)

6.5 Set language to English (UK)

6.6 When prompted select all components except 'setup hard disk applications'

6.7 Set up a 'dummy' printer locally

6.8 Allow auto-detect of network cards

6.9 Accept Compaq netflex card detection

6.10 Enable TCP/IP and Netbeui transports

6.11 For configuring TCP/IP accept the following options:

Connectivity Utilities

SNMP Service

TCP/IP Printing

FTP Service

Simple TCP/IP Services

6.12 Accept default SNMP settings

6.13 Accept default FTP settings

Note: files are now copied to the disk from the CD-ROM

6.14 Accept network settings

6.15 When prompted set up the appropriate TCP/IP settings for:

IP Address	e.g. 159.245.80.22
Subnet Mask	e.g. 245.245.248.0
Default Gateway	e.g. 159.245.80.1

6.16 At domain setting prompt:

Select Backup Domain Controller (or Primary as appropriate)

Name: e.g. GSEPD01

Administrator Name: ADMINISTRATOR

Password: As appropriate

6.17 Accept virtual memory default settings

6.18 Accept time settings

6.19 Select default video modes

Note: emergency repair information is now saved to the disk

6.20 Insert the new floppy disk into the drive (fully labelled)

6.21 Accept prompt to create emergency disk

6.22 Restart the server at the prompt

7.0 In Windows Setup add the 4mm DAT driver

7.1 Re-start the server

8.0 Install Compaq utilities disk and run A:\SETUPCMD

8.1 Select Compaq HAL Support
Select Compaq SCSI Controller Support
Select Compaq Network Support
Select Compaq System Management Support

8.2 When prompted, remove Compaq Drive Array Controller Driver
Add (other)
Path is: A:\SCSI\ARRAY
Note: do not restart the server at this point

8.3 In Control Panel Network Settings;
Select Network: Update
Ensure Compaq disk is in the drive
When prompted for a path type A:\NET\NETFLEX

8.4 Shutdown and restart the server

9.0 Install service pack 3 disk 1 in the drive

9.1 Run A:\UPDATE.EXE

9.2 Feed in the disks (there are no selections to make)

9.3 Shutdown and restart the server

10.0 Start the Windows NT Backup utility

10.1 Insert the appropriate System backup DAT tape

10.2 Select restore registry
If the server being re-built is the PDC, select all of the files beneath the REPL directory
If the server being re-built is a BDC, select just one sample file from the IMPORT directory

11.0 After the completion of the re-store, shutdown and restart the server

12.0 Promote / demote the servers as appropriate to get the NETLOGON service to function

13.0 Use disk administrator to assign appropriate drive letters to the partitions

14.0 Re-store remaining data files as appropriate

15.0 Shut down and restart the server

Note: The tasks detailed above between 1.0 and 13.0 take approximately 90 minutes.

Appendix 3 The registry become corrupt on the main fileserver

Recover using emergency repair disk

1.0 Insert the NT setup disk (floppy disk 1) into the server

2.0 Insert the NT CD-ROM disk into the server

3.0 Shutdown and restart the server

4.0 *Follow the on-screen instructions*

4.1 Select repair installation option

4.2 Select all inspection options

4.3 Accept mass storage selection

4.4 Select do not accept search for additional adaptors

4.4 Indicate that install will be performed using the CD-ROM

4.6 Indicate that an emergency repair disk exists

4.7 Insert the emergency repair disk

4.8 Accept all repair options

4.9 Skip all file repairs

5.0 Restart the server

Note: When the server 'comes up', the NETLOGON service fails to start; to overcome this it is necessary to perform the following task:
At the 'other server', using the Server Manager utility, perform a promote followed by a demote of the server, or vice versa, dependant upon which server was repaired.

The tasks detailed in section C above take approximately 50 minutes to complete.

Appendix 4 Destruction

In the event of total destruction of the server hardware, it will be necessary to hire hardware from Rockliff of identical specification (or near identical specification) to the hardware that LG owns. Additionally Rockliff engineers will be required to aid in the build of the fileservers. Subsequent to the hardware build, the steps detailed in Appendix 3 would need to be followed.

Appendix 5 Virus Infiltration