1. **Job Details**

**Job Title:** Deputy IT Service Manager (incl Solaris and Filestore Manager)

**Line Manager:** School IT Services Manager

2. **Job Purpose**


3. **Main Responsibilities**

1. Daily audit and strategic management of the filestore backup to ensure that these are being completed as per School policy.  
   
2. Ensure correct operation of Sun Solaris workstations and file and application servers (includes maintenance of build and patching procedures). Customer support for Solaris users. Management of 3rd party Solaris Applications, cross platform availability via X windows.  

3. Overview of Customer services and CMS job queue  

4. Deputising for School IT manager wrt to team priorities and strategies.  

4. **Planning and Organising**

Postholder required to be self organising wrt to job prioritisation, blending event driven and development work. Long term service test and development in consultation with colleagues around the University and externally.

5. **Problem Solving**

A high level of ability in analysis and support skills appropriate to computer systems problems, with technical leadership to other members of the team. Wrting customers, a requirement for finely honed social skills

Example: When the School was formed the users from the ex Division of Engineering were moved to two NAS (very large) file servers. However, there were some issues with the servers including reliability of simultaneous network access by so many users and while performing overnight backups. Whilst keeping the service running and striving for greater reliability alternative methods were explored for delivering and backing up the filestore (see below).

6. **Decision Making**

The maintenance and development of new services requires decisions in respect of changes which will affect all users of these services. For example when to apply patches, when to introduce a complete change to a core cross-platform service, eg the printing infrastructure. There is an expectation to take decisions unaided and make recommendations with a view to improving existing services and to implement these successfully after appropriate consultation with other service providers.

Example (continued from above): The mid-term solution which the postholder is currently overseeing is to use a new model migrating all the existing file stores to be distributed across our Sun workstation farm (80 machines, ie 5-6 users per disk and logically divided into a number of clusters) and using NAS systems only to provide the backup and a history (eg keep daily copies for 7 days, weekly copies for 1 month, monthly copies for a quarter, on odd days backup is to a server located in one building, on even days to servers in another building.) The actual number of historical copies will fluctuate, decreasing as the primary Sun filestore fills, increasing as the capacity of replacement NAS servers grows. A cunning part of the model is that a given file need only be stored once on each backup server but its presence on any given date is always recorded. Only when the contents of a file changes is the new version stored in addition to the original. It is intended that this file history is made available as a read-only archive to each user, freeing the team from performing manual restores and providing users with instant trace back. [The matter here is that the original strategy chosen, failed to deliver the required performance level.
Diagnosis and an alternative solution was required to a core service that effects every single user in the School.

7. Key Contacts/Relationships

Internally, customers range from students to head of school and externally included visiting academics and senior industrialists as well as number or affiliated organisations. As head of customer relations the external customers require guidance to map their expectations.

Technical support between other IT staff in the University, Sun Microsystems (support help desk and product test engineers), application software support desks.

Example: Some 5th year MEng courses are now cross-disciplinary and run by outside industrialists. One of the courses required the installation of some CAD software produced by Cadence (for which the postholder is the lead person). Normally, Cadence software would run under either Solaris or Linux. However, in this case the software, Cadence Allegro, would only run under Windows XP and, furthermore so poorly structured that it could not be packaged for standard deployment in the PC teaching labs. Force majeure, the postholder liaised extensively with Cadence and the industrialist, ran a number of test installations, evolved and oversaw the implementation of a plan to allow small scale manual deployment in our teaching labs to allow the course to proceed. [The problem here is that the School was committed to delivering a new flagship course sponsored by the Royal Academy of Engineering, and the industrialist was unwilling to use anything other than their preferred CAD tool. The incompatibilities between it and the EUCS managed desktop were utterly unresolvable. A compromise was seen to be required and involved tasking most members of the team with some aspect or other.]

Example: The School has recently completed beta testing a new workstation for Sun Microsystems (the third such programme in the past decade that we have been invited to participate in and, we believe, the only UK site to do so). This involves liaising with Sun engineers, integrating the test workstation into the SEE system, running initial tests, identifying suitable users in the School to run tests with commercial CAD packages on the workstation and ensuring that there is a "control" workstation environment to benchmark the beta test workstation against, filing weekly test reports.

8. Knowledge, Skills and Experience Needed for the Job

The job is of a highly technical nature requiring graduate level education or equivalent, a high level of hands on skill, working within a team, and a minimum of five years experience with a range of relevant hardware and operating system software. The ability to overcome operational difficulties and solve problems in a timely and effective manner is essential along with technical communication skills.

9. Dimensions

The School has 1200 undergraduate and taught MSc students, 400 research students and staff, altogether 2100 registered user accounts.

The School operates three managed and maintained platforms:

a. Solaris: 206 installations (incl 74 seat partitionable teaching lab, 42 servers),
b. Linux: 548* installations managed via LCFG; 15 turnkey 64-bit servers.
c. Windows XP: 400 installations (265* "SEE" managed, 145* "AD" managed in five labs with UG compatibility).
   [*]390 are dual boot Linux/Windows (technology developed in SEE and now exported to DST for the Microlabs)
d. In addition we provide network services (filestore, printing etc) to a further 40 personally managed machines (mainly user laptops) and a similar number of lab-experiment turnkey systems throughout the School.

Filestore: 42 Solaris servers, 14 Linux NAS boxes (cross replicating) (>100TB total). 90 network printer queues (60 printers). Web sites for 33 registered domains (hosted on 3 servers), mailservers for 16 domains (3 servers).

The School has designed, manages and operates a fibre network linking 13 buildings spread over the KB site together with a cat5E distribution to 2800 circuits in offices and labs. The School "backbone" centres around two Cisco routers connected directly to Edlan and Informatics respectively, 32 network switches (up to 168 ports each) with hot-spare inter-links. 25 WAPs provide wireless coverage throughout for mobile users and visitors. In three buildings, the data network also carry phone circuits (130 in total) for which connections are also managed by the IT team.
Applications: c240 Solaris, c30 Linux, c40 MS-Windows (25 MSIs for teaching labs), 20 licence servers of various types. Only applications that run on all three platforms are eligible to be classed as core applications within the School. There are 9 of these including basic maths and officetools: Matlab, Maple and OpenOffice.

The user help-desk uses the EUCS CMS with calls filtered by the college support team, and runs at between 150 and 200 open calls for the School team to resolve. All members of the team take a half-day duty turn, assigning jobs to the appropriate team member. The School’s IT help web site contains 204 pages (and about 2500 links).

The postholder oversees the work of post SEE-IT19 (and who is actually implementing the new filestore model).

10. Job Context

The post requires a wide ranging knowledge across a number of core services. The job is technically complex and challenging, as the technology, and hence the service requirements of our researchers in particular, are constantly evolving before any support infrastructure is available from the University. Issues arise often that have not been encountered before and the IT team is always at the leading edge, frequently advising EUCS on such matters.

In order to ensure continuity of service, especially for taught laboratories for which rescheduling is virtually impossible, we have to develop back up for those central services that we normally rely on. Where practical, these are hot-swap, but inevitably many require on-the-fly manual reconfiguration.

11. Verification

I agree that this job description conveys an accurate description of the job.

    Job Title   Name   signature   date

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