Moving on from Windows 3.1

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Volume 25, Number 5

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From the Editor

The Supported Windows 3.1 service will cease to exist from 24 Sepetmeber 1999. On pages 5 and 7, Doug Moncur explains the implications of this, and the action that users of this service need to take.

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There have recently been a number of changes made to the York Web service, including the creation of a new 'user' area, and the introduction of a CGI Script Server. Mike Brudenell gives more details of these on pages 6 and 7.
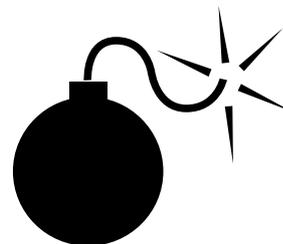
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Recent feedback from users has indicated that the implementation of a firewall is an issue of great interest. For an initial background to its implementation, look no further than page 8 for Chris Joy's article.

Joanne Casey

millennium countdown

36 weeks to go!

Are you prepared? See *http://www.york.ac.uk/services/cserv/offdocs/y2k.htm* for further information.

News in brief

Staff News
Mike Jinks

At the time of writing we have two vacant posts: Senior Analyst, and Computing Assistant. The closing dates for applications for each of these posts has passed and it is possible that one at least will be in post by the time this issue of Keynotes is published; we hope to introduce them in the next issue.

Steve Downes has recently joined us as Chief Technician. Steve previously worked for BT, British Airways and, most recently, for Storage Technology as a network consultant. In recognition of the dependence of the PC-based services on the network infrastructure and the skill sets of the recently appointed technicians, we have given Steve responsibility for all the technicians within the Service to improve flexibility and hence responsiveness to incidents.

Paul Hodgson joined us in March as a Computing Assistant. Paul previously held several posts within MAFF, culminating in a post in the Resource Management Division in which he supplied data and answered queries as well as undertaking other administrative tasks.

We hope both our new colleagues will enjoy working with us.

May Bank Holidays
Brian Souter

The Computing Service, including the Information Desk and entrance lobby, will be closed on the Early May Bank Holiday (3 May) and the Late May Bank Holiday (31 May). All computer systems and college facilities will be available as for a normal weekend.

ILIAD Stage 2 - A Spring Success
Sue Hodges

Although highly over-subscribed, the Spring term pilot initiative was a great success. All three courses - Office Skills, Database Systems and Design of Web Pages - ran smoothly and evaluations show that course materials were interesting and effective. The same courses will run in the Summer Term and the ILIAD Office has already been inundated with enquiries from students. Information can be found on our web site: http://www.york.ac.uk/services/cserv/training/main.htm.

20 places are available on each course and we again expect to have to turn away disappointed wannabes, so early booking is recommended. In subsequent years we will be extending the number of places and range of courses on offer, thus helping students to graduate with useful skills for the workplace.

Periods of Writing Up
Brian Souter

Our registration system now has the capability to expire accounts automatically for those students who join the long term register. The annual fee payable to the Computing Service to continue to use our facilites, eg. during a period of writing up, must now be paid at the Computing Service Information Desk and not the Cash Office. We have already removed some 650 inactive accounts, and a backlog of 200 active accounts will be expired at the end of April, although 30 days notice will be given via a login message.

New Classroom Printers
Brian Souter

We have recently purchased another three printers in order to replace the old models in Derwent, Langwith and Wentworth. We hope to bring them into service over the Easter vacation. We first introduced the new HP 8000DN printer last Summer when we replaced old printers in Alcuin, Goodricke and King's Manor. It has proved to be extremely reliable and, with its 2500 page hopper and double density toner cartridge, has greatly improved the serviceability outside normal hours.

Web access to the 1991 Census data
John Robinson

One of the datasets held on MIDAS (New National Service Computing Resources, see January Keynotes) is the results of the 1991 census of Great Britain and Northern Ireland. This contains census counts for a vast number of categories of questions, covering the whole country at a range of administrative/geographical resolutions. Learning how to get particular information from this mass of data was a task in itself. There is a new web interface which makes this process much easier, based at http://census.ac.uk/casweb. Users who are already authorised to access the census data can use it directly; others can look at the on-line help to get some idea of the coverage of the data, and how it is structured.

Not just 2000: Other Nasty Dates

Doug Moncur

Taxi drivers in Gothenburg had a fun start to the new year - all the meters crashed as the internal software in the meter treated '99' as 'end of data' and promptly stopped recording.

Unfortunately this isn't just a funny story. If you think about it, it's surprising just how many data input systems use '99' as 'end of data' or 'exit system'.

There are a number of software systems that treat 09/09/99 as a magic date as well - typically systems that internally hold the date as '9999'.

Fortunately, it's unlikely that any of the University's critical systems are going to be affected by this problem, but there's always a chance that there might be something somewhere that's not going to like that date.

Further on, once we've got over the millennium itself we've got another problem - the year 2000 is a leap year, when normally a year that ends in 00 isn't a leap year. Unfortunately some systems get it wrong and think that 2000 isn't a leap year and consequently don't recognise 29/02/2000 as a valid date.

Again, it's unlikely that any of the major systems will be affected. The PC testing software we use checks this as well and indications are that this is not going to be a significant problem.

In fact the software we use to test PCs checks 2004 and 2008 as well to be sure, by which time you will probably have replaced the system.

Another bad date, which is known to affect some embedded systems is 31/12/00. Why? Simply because some systems look only at the last digit of the year and while they can cope with '0', they treat '1' as '91' not '01'.

This is quite rare, but undoubtedly some systems will be affected by it.

And while 'embedded systems' sounds exotic, actually they're all around you in video recorders, mobile phones, car engine management systems and so on.

So, the upshot is that while for some systems doomsday might be 01/01/00, for others it may be earlier or later. For systems you rely on, it is worth checking with the suppliers to discover any other critical date dependancies.

Buying a New PC

Doug Moncur

Buying a new PC can be a very confusing experience, and with the rate of model and processor change, can easily leave you feeling that if you had hung on a little longer you would have got a better deal.

If you are buying a new PC for connection to the campus network it should come from one of our preferred suppliers, Viglen, Acer or Dan.

The Computing Service current recommended specifications are:

Processor: Intel Pentium II, 350 MHz, 400 MHz, or 450 MHz
Memory: 64 Mb minimum 100MHz FSB compliant
Hard disk: 6 Mb minimum
CD-ROM: 24 speed minimum

Sound card: Sound blaster compatible
Video: 4 Mb AGP minimum
Monitor: 14"
Keyboard: 105 key Layout
Mouse: Microsoft PS/2
Ethernet card: 3com 3c905b-tx 10/100 switchable
OS: Windows 95

Notes:

Some Acer computers incorporate an Intel ethercard - this is acceptable in place of the standard 3com card

Pentium III systems are also available and may be ordered in place of Pentium II systems

Dependent on the exact specification, you should expect to pay between £750 and £1000 +vat for a PC.

Information and contact points for pricing information from suppliers can be found at http://www.york.ac.uk/services/cserv/pc/purchase.yrk/specs.htm, although to view some of the information you must be logged into a computer connected to the York campus network.

If you want a personal inkjet printer the HP 695c at around £90+vat is a good buy, and some of the smaller HP laser printers such as the HP 1100 at around £215+vat may be suitable. Note however that it may be difficult to network some of the smaller printers.

Software
John Illingworth, Chris Joy, Peter Halls

Software news
John Illingworth

The Windows 95 upgrade on 13 April included the following:
Limdep 7
Netscape Communicator 4.51 (includes latest plug-ins)
Programmers' File Editor 1.01.000
JDK 2 (Java Development Kit)
ArcView 3.1
Gnuplot 3.7

To improve the Windows 95 load time there are minor changes to the start menu. The Information Resources and Utilities & Extras are replaced by folders of icons. This has little impact on usage but cuts down the time spent watching the "Start menu Loading" dialogue box on classroom computers.

Withdrawal of Irix 5.3
Chris Joy

The Computing Service currently manages a small number of Silicon Graphics workstations in departments which run the Irix 5.3 operating system. These systems allow users access to centrally managed applications and direct home directory access.

In accordance with the recommendations of the Computing Service Review, a formal service has been defined for the management of Silicon Graphics workstations. This service is based on the Irix 6.5 operating system which is the latest release and allows access to newer versions of popular applications. Details of the new managed Unix workstation service can be found in the January 1999 edition of Keynotes.

The transition of current workstations to this new service (or to a standalone state) has been under discussion for several months. The Computing Service has now fixed the date for removal of the service to Friday 24 September 1999. All managed Irix 5.3 workstations must be transitioned prior to this date when they will cease to function. If you have any questions or concerns about this issue then please contact Chris Joy (cj8@york.ac.uk).

ArcView release 3.1 now available at York
Peter Halls

We have recently installed ArcView release 3.1 on the UNIX and Windows 95 supported environments at York. ArcView is now available on the SUN hosts tower and ebor, for Windows 95 users who need to use both Arc/Info and ArcView with the same data.

There are many bug fixes, but the main enhancement is the 3-D Analyst extension. 3-D Analyst brings to ArcView a set of surface manipulation and viewing facilities which, although not as extensive as those available in Arc/Info, provide an easy to display means of viewing surface data and in combination with the standard ArcView facilities.

Software Survey
John Illingworth

At its meeting of 11 March 1999 the Computing Committee set in train the annual survey by which departments are asked if there are any new items of software or hardware that they believe should be provided centrally. The survey will be carried out by the Computing Service and the results passed to Computing Committee in time for its summer term meeting.

A departmental response is required and the survey forms will be sent to Heads of Departments only. If you have any suggestions, it is to your Head of Department that they should be addressed.

The criteria used in the past by the Computing Committee have included the number of departments requesting a particular item and the overall cost of obtaining it. Letters to the chair of the committee from consortia of departments pleading a particular case have, I believe, also been influential.

This process is now in its third year and has already resulted in the purchase of AVS, an advanced graphics system for research users, an anti-virus system for office PC users, and the decision to add Microsoft Office to the repertoire of centrally provided software as part of the implementation of Windows 2000, due to be released sometime in the next millennium!

mac

MAC and the Millennium
Student Record
Kay Robinson

Introduction

In the previous issue of Keynotes I outlined the compliance status of the MAC system and explained how we will be testing the MAC system during the coming months to identify millennium date problems. In this issue I shall be looking at the Student Record System in more detail and providing advice for users of applicant and student data in the data warehouse.

Student Record

There are many date fields in the Student Record system. Some of them are actual date values such as registration date, student date of birth, leaving date etc. Many fields are not actual date values, rather they imply a date such as academic year and admissions year. The student code also contains an implied date in that the first two digits represent the admissions year in which the student first applied to the University.

Date fields are populated in the Student Record by manual data entry and by calculations within the programs. For fields which are populated by manual entry, the student system has a certain amount of intelligence built in. This means that if you enter a date value without typing in the century value, the system works out what you really mean and adds what it thinks is the correct century value to your date. For example, if you type in 01/04/99, the student system will save the date as 01/04/1999, whereas if you enter 01/04/00 the date will be saved as 01/04/2000. This feature is extremely useful in that it saves a large number of keystrokes. It is possible to see this mechanism at work in the screen through which student supervisors are entered. The fields which are available on this screen are similar to this:

Student	981234567 Bloggs J		HESA No.	00001234567890
Forename	Joe			
Role	Staff No	Name	From	To
S1	LEC1234	Smith J Dr	10/98	01/01
S2	LEC4321	Jones F Dr	01/01	07/01

On this particular screen the day of the month is not required and the century does not display due to space limitations in the screen width. However, if a date of 10/98 is entered into the "from" column and a date of 01/01 into the "to" column, the system

adds century values resulting in the following dates: 10/1998 and 01/2001. The system has correctly deduced that you mean 2001 and not 1901.

For date fields which are calculated by program we have to ensure that the operating system, programming language and application software are all millennium compliant. We have obtained statements from our suppliers which indicate that our software is compliant. Consequently, it is not necessary to test every single date calculation that takes place in the student system. The strategy that we have adopted is to test our main processes in the Student Record system based on the priorities established by the University Millennium Working Group. In conjunction with the Student Record DBA, we have established a test plan and will be starting the testing after Easter. The processes that we will be paying particular attention to are: P/G and U/G admissions, progression, registration, fee generation and collection.

Student Data Warehouse

All date fields are held in the data warehouse as YYYYMMDD. Even if MAC does not display the equivalent date field on the screen with the century displayed you will find that all data warehouse dates contain the full century value. Thus it is possible to ensure that your own programs and reports which use data in the data warehouse will operate correctly.

Date fields which contain an implied date value and which you will need to be particularly careful with in your programs and reports are:

Table Name	Field Name	Contents/ Comments
CUD, AUD etc	cs_st_code	eg 991234567
AUC	cs_sect_of_entry	eg 99 or 00 (for 2000)
AUD	d_yofe	eg 99 or 00 (for 2000)
AUQ	cs_stql_sect	eg 99, 00
CUD	d_char_year_of_entry	eg 1999, 2000
CUD	cs_stcy_curac	eg 9899, 9900
CUD	cs_stcy_curcal	eg 98, 99
CUD	cs_yrllinst	eg 1999, 0 (for blank entry)
CUD	cs_studstat_code	eg 98, 99,00
FUM	cs_academic_year	eg 98, 99, 00

Withdrawal of the Windows 3.1 Service
Doug Moncur

After six years, the supported Windows 3.1 (otherwise known as a level 2 connection) service will be withdrawn on 24 September 1999.

It was the PC-NFS based supported PC service that really began the wide scale migration to the use of PCs within the University, with a single universal logon and a standard software environment available on all PCs.

The service evolved out of the migration of a Pathworks 4 classroom service to PC-NFS and its development was co-incident with the move from VMS to Unix within the University.

However, times move on and it became increasingly difficult to sustain the service and support more modern PC types on it, and indeed no additional machines have been connected to the service since February 1998.

This presents users with three options:

• You have the opportunity to migrate to the supported Windows 95 service. The procedure for migration is explained later in this article.

• If you do not wish to migrate to Windows 95, or if you do not have a suitable machine you may convert to an unsupported connection.

However you may need to reinstall Windows 3.1 and you must obtain your own networking software to allow you to connect to the campus network, although we will provide you with the required network configuration information (IP address, gateway and dns server address) on request. Again, the procedure is explained below.

With an unsupported connection you will be unable to access central filestore, eg your M: drive, or use the central printers.

• Finally, you may wish to take the opportunity to obtain a new machine - please see the related article on page 2 - and have that connected to the supported Windows 95 service.

You should also consult with your departmental computer liaison staff, as your department may have a migration plan in hand.

Upgrading from Windows 3.1 to a supported Windows 95 connection

Supported Windows 3.1 connections will be withdrawn on 24 September 1999.

Before then you should have made arrangements to either upgrade or move to an unsupported connection.

Moving to an unsupported windows 3.1 connection

If you are planning to move to an unsupported Windows 3.1 connection you need to make all the arrangements yourself and install the networking software on your machine.

Suitable software includes Trumpet Winsock, which is shareware, and can be downloaded via http://micros.hensa.ac.uk among other sites.

You will also require a packet driver to provide an interface between the windows sockets software and the ethernet card. The majority of older systems on campus use a card compatible with the WD8013 packet driver.

Fuller information on setting up an unsupported connection will be available on the web shortly.

Finally, once everything is installed and working you need to mail the infodesk to say that you have converted your PC to an unsupported connection.

You will need to include the name of your PC in the message.

Upgrading to a supported Windows 95 connection

Provided your PC is at least a 4DX2-66 based PC with 16Mb of memory and 120Mb free space on the C: drive you can upgrade to a supported Windows 95 connection.

The cost of the upgrade is £35 and you will also become liable for the £100 annual software charge once the upgrade has been carried out.

To arrange an upgrade you must complete an orange upgrade request form (obtainable from the infodesk) and return it along with a goods demand and charge note.

Do not leave this to the last minute. It is likely the Computing Service will be under pressure this summer with Y2K testing and updates, as well as the installation of new machines. If you want to upgrade please complete a form as soon as possible.

YorkWeb News
Mike Brudenell

A number of visible and not-so-visible changes have been made to the University's World-Wide Web service, YorkWeb, over recent months.

What's in a Name?
Web Areas & Disclaimers

Since its launch back in 1994 people have been able to provide two types of information on YorkWeb: "official" and "unofficial".

"Official" information is held in special usernames called Web Accounts. Departments, research groups, etc can request these from the Computing Service.

"Unofficial" information is instead stored within a specially named directory within someone's username: a "Personal Web Area".

Personal Web Areas have only ever been intended to hold personal information such as hobbies, interests, etc. However in recent years we have learned that some people are also using them to disseminate information from their research groups instead of applying for a proper Web Account.

A problem arises because of the requirement that when an "official" page includes a link to an "unofficial" item that link must go through an intermediate Disclaimer Mechanism. This displays a warning that the information about to be accessed is unofficial: something some researchers object to being said about their work!

We are making two changes to improve the perception of these pages:

1. The requirement to use the Disclaimer Mechanism is being withdrawn. This is made possible by the server separation discussed in "Personality Split" below.

2. We will be changing the name we use to refer to such areas from "Personal Web Areas" to "User Web Areas" instead. This clarifies somewhat that the area belongs to a user or group: "personal" carried connotations of an individual's, probably unofficial, information.

Nonetheless User Web Areas remain an unofficial distribution route for information. If you head a research group you may like to consider contacting the Computing Service Information Desk to request a proper Web Account for your group to use instead.

Personality Split

On 19 February the University's World-Wide Web service, YorkWeb, underwent a personality split. Up until then our web server — http://www.york.ac.uk/ — had been fulfilling requests not only for official information from departments, research groups, etc but also for User Web Areas belonging to individuals, societies, etc.

The distinction between these two types of information was, to say the least, subtle: if the URL began with "/~" then it referred to an item in a User Web Area, otherwise it was of an official item held in a Web Account.

Of late the University has been increasingly aware of the need to further clarify the distinction between the two types of information provision for the purposes of disclaimers and liability.

Consequently the YorkWeb server has been "split" into two separate services.

The first — http://www.york.ac.uk/ — continues to provide access to documents stored in official Web Accounts. This means that the URLs of documents belonging to departments, research groups, etc have NOT changed.

The new server — http://www-users.york.ac.uk/ — now hosts the User Web Areas (but see also "What's in a Name?" above). This means that the URLs of people's own areas HAVE been altered. For example, http://www.york.ac.uk/~ozw1/essay.html has now become http://www-users.york.ac.uk/~ozw1/essay.html.

We are minimising the disruption of this change by having the main, www.york.ac.uk, web server to automatically redirect requests for User Web Area items to the new server.

This automatic redirection will remain in effect until at least the start of the next Academic Year. At some point after that it will be replaced by an "apology page" explaining the change and suggesting the correct URL for a further period.

Do you have a User Web Area set up? If so please check through it between now and October to correct any links to use the new server instead of the old.

Features Added

User Web Areas now enjoy some features previously only available to Web Accounts:

• Our simple-to-use standard protection mechanisms enable you to create directories whose content is restricted to local users.

Further details can be found in the Computing Service's Hints & Tips area, at http://www.york.ac.uk/services/cserv/help/web/Extras/RestrictingAccess.html.

• HTML files with names ending ".shtml" are now interpreted as "server-parsed documents". These give limited control over the content of the document that gets returned without having to learn CGI script programming.

• New and improved lists of people with User Web Areas are now produced. These can be found at the User Web Area server's home page: http://www-users.york.ac.uk/.

Ultimately this will also be described in the Hints & Tips area. However for the present please see the web server software's own documentation at http://sunsite.doc.ic.ac.uk/packages/apache/docs/mod/mod_include.html.

Features Withdrawn

The splitting operation performed on YorkWeb now results in our getting two sets of logfiles, one for each server, where previously there was just one. Unfortunately the software which produces the Usage Statistics pages can currently only be configured to know about one set of these.

Consequently we have had to withdraw the Usage Statistics reports for User Web Areas for the time being. It may be possible to reintroduce them, possibly in a different form, in the future; however this depends on the time needed to alter the software balanced against the perceived benefits of doing so. Due to time constraints it is not envisaged that this will be possible in the near future.

Usage Statistics reports for the official areas of YorkWeb continue to be produced and are available in the usual place.

Up to Date

Coinciding with the above changes we have also updated the web server software to the latest version: Apache 1.3.4.

This update should be invisible to virtually all of our users.

It's Off to Work We Go!

17 March saw the launch of our long-awaited and oft-requested CGI Script Server.

Members of academic staff and research graduates can register for this facility directly through the Electronic InfoDesk. Taught graduates and undergraduates can only be registered by their academic supervisor, who should contact the Information Desk staff.

CGI scripts are programs that can be used to process data received from forms on web pages and/or produce tailored pages of results. One area of particular interest is using CGI scripts to allow databases to be searched or updated from web pages.

The Computing Service is aware of the need for training in this area and intends to start developing a course this Summer.

Help with using the CGI Script Server is available from its home page at http://www-cgi.york.ac.uk/.
However this does NOT cover learning to program in general or for CGI scripts specifically: it assumes you already know about CGI scripting or are prepared to learn about it from elsewhere on the Internet.

Withdrawal of the Windows 3.1 Service

Replacing your machine

Check out the related article on current PC specifications in this issue, and order a suitable machine and when you order the machine say that you wish it configured as a supported connection. There is an administration fee of £25 per order, and besides this we will also charge the £35 configuration charge and £100 annual software fee to your order.

Again, order as soon as possible in order to help us spread the load over the summer.

If you would like to order the machine yourself you may do so. Once you have the machine please complete an orange form and we will process it exactly as we would an upgrade to a supported Windows 95 connection.

firewall

Watching the Wily Hacker
Chris Joy

Computer systems remain the cornerstone of departmental research and administration, producing a critical information infrastructure which is essential in the daily business of this organisation.

Unfortunately, any system that is connected to the Internet is at serious risk from malicious attacks, ranging from overloading a computer and making it crash, to breaking in and stealing/ deleting data. Attempts to compromise our network occur at the rate of 2-5 minor incidents per day.

As part of a continued effort to maintain the integrity of computer systems at York, the Computing Service has augmented the existing security systems with a Firewall. This is a network security device which inspects all traffic passing from one network (the Internet) to another (York's network). It has the ability to block traffic according to a series of rules or to alert the administrator of unacceptable network traffic patterns.

Implementation of the Firewall is a multi-phase process. The device has been in place on our link to the Internet since January, quietly monitoring and analysing the network traffic in order to build up a picture of usage patterns. It is now proposed that key Internet services which are vulnerable to external attack, will become restricted or denied.

Some key examples are:

Finger - All inbound requests blocked.

Ping - All ping requests blocked (inbound and outbound).

Snmp - All inbound snmp queries blocked.

NFS - All traffic blocked.

NIS - All traffic blocked.

Netbios - All inbound traffic blocked.

FTP - Restricted on Computing Service systems to only ftp.york.ac.uk.

Telnet - Restricted on Computing Service systems to only telnet.york.ac.uk.

DNS - To be restricted after further discussion.

ICMP - To be restricted after further discussion.

The presence of the firewall should be seen only as a device for reducing the opportunity for external users to attack York computer systems. It is not intended to restrict any legitimate academic usage of the network, as granular controls on inbound access will be at the discretion of departments in the first instance.

Further details on the implementation process will be put out for discussion on the departmental contacts mailing-list and feedback is encouraged. If you have any comments or concerns then please contact Chris Joy (cj8@york.ac.uk) at the Computing Service.

Chris Joy has recently given presentations on the implementation of the firewall at Computing Committee and Computing Forum. Minutes of these meetings can be found at http://www.york.ac.uk/services/ cserv/offdocs/main.htm

MAC and the Millennium

General advice for student DWH users

• Make sure that the sort order in your report is suitable for your requirements. This is particularly important once we have students with student codes starting with "00".
• make sure that all displays of student number treat leading zeros correctly. For 2000 entry, applicant/student numbers should be displayed: 001234567.
• make sure that fields containing zero are displayed where the value zero has a meaning e.g. year of entry which is 2-digit 00.
• check that selection of applicants from the current year does not simply use a greater than operator. This will not work as you intend it if the comparison is "is 00 > 99".
• if you compare applicant number with entry year to determine deferral status - check that this will work correctly when applicant number is 99 and year of entry is >= 00.

Millennium testing data

UCAS will be making some test U/G applicant data available for Institutions who wish to test their admissions systems. We will be obtaining this data file as soon as it is available and making the applicant data available in the DWH for departmental use.

Forthcoming articles

In the next issue of Keynotes I hope to be able to report on progress with our millennium test plan.

Computing Service Address

Computing Service	Telephone: Switchboard (01904) 430000
University of York	Direct dialling (01904) 43 followed by ext no.
Heslington	Fax: (01904) 433740
YORK YO1 5DD	Email: *username*@york.ac.uk

Also, try the World Wide Web: http://www.york.ac.uk/services/cserv

Information Desk

Telephone: ext 3838
Email: *infodesk*

The Information Desk is open from 9am to 5.15pm Monday to Thursday, and 9am to 4.15pm Friday (*closed for training Wednesdays 2pm-3pm*), for problem solving, advice and information, fault reporting, network connections, file conversion, sales, course bookings, registration and documentation. Printed output can be collected from the lobby entrance which is open from 8am to midnight.

Computing Service Staff:

Role	Name	Ext	Username
Director:	Mike Jinks	3801	*kmj1*
Deputy Director:	Peter Roberts	3802	*pdr1*
Departmental Secretary:	Lorraine Moor	3801	*lsm1*
Head of Technical Services:	Dave Atkin	3804	*dla1*
Head of User Services:	John Illingworth	3803	*jji1*
Head of Personal Systems:	Doug Moncur	3815	*dgm1*
Head of MIS:	Kay Robinson	2101	*kr7*
Operations Manager:	Brian Souter	3814	*bs1*
Information Officer:	Joanne Casey	3805	*jmc8*

Name	Ext	Username	Name	Ext	Username
Sue Bolton	2102	*sjb28*	Sue Hodges	3839	*sh32*
Mike Brudenell	3811	*pmb1*	Paul Hodgson	4347	*ph25*
John Byrne	3812	*jcb1*	Jenny Jackson	4455	*jj5*
Paul Conacher	4346	*pac1*	Chris Joy	3807	*cj8*
Mark Cook	3897	*rmc12*	Bob Marriott	4454	*bdm2*
Sue Dekker	3800	*spd2*	John Marsden	3832	*jpm1*
Robert Demaine	3808	*rld1*	John Mason	3813	*jrm13*
Steve Downes	3821	*sd21*	Darren Munday	3821	*dam6*
Debra Fayter	3839	*daf3*	Helen Parker	3800	*hp7*
Ken Finch	4452	*kf1*	Colin Rea	3817	*cr9*
Rob Fletcher	3816	*rpf1*	John Robinson	3833	*jsr1*
Kevin Gardner	3739	*pkg4*	Sam Scott	3817	*svs2*
Chris Gowland	3823	*cg1*	Andrew Smith	3809	*abs4*
Peter Halls	3806	*pjh1*	Timothy Willson	2123	*ftmw1*
Vivienne Hemingway	3818	*vwh1*	Michael Woodhead	3825	*mw28*