International electronic mail

Jeremy M Hutson

Department of Chemistry, University of Durham, Durham DH1 3LE, UK

It is now possible to send electronic mail between computers on the UK academic network JANET and machines in Europe and America. JANET is linked to the BITNET and EARN networks through a gateway at the Rutherford Laboratories, and to the ARPA network through a gateway at University College, London. It is also possible to forward mail to other networks through these gateways. This article is intended to provide an introduction to these facilities, but is by no means comprehensive; sources of further information are described below.

It is assumed that users are already familiar with methods for sending electronic mail within their own network. A fair amount of jargon is unavoidable, and it is not possible to explain it all here; the most important concepts are a *mailer*, which is the program invoked on your local machine when you ask it to send mail, and an *address*, which is a string of characters which identifies the recipient (or sender). As with post office addresses, the recipient's address can take somewhat different forms, depending on where the mail is being sent from. The actual commands involved are highly machine-dependent, and cannot be covered in a general article of this type; information should be available from your local computer service.

The convention used in typesetting the following sections is that items in sanserif type are to be entered exactly as shown, whereas items in *italic* type are to be substituted with an appropriate value.

BITNET AND EARN

The BITNET and EARN networks may be used for scientific, educational, academic and research purposes only. No commercial use, direct or indirect, is permitted. Users in UK universities should check with their local computer service before attempting to use the EARN gateway.

Mail from JANET to BITNET and EARN

Normal BITNET/EARN addresses are of the form *name@site* (sometimes specified as *name@site*.bitnet). Mail can be sent from JANET nodes using the usual network mail commands, specifying the address as *name%site*@rl.earn.

Note that, if the mail command requires 'remote username' and 'sitename' separately, the username is the portion of the (expanded) address before the @ sign and the sitename is the portion after the @ sign. Thus, in the above example, the 'remote username' is *name%site* and the 'sitename' is rl.earn.

It can be difficult or impossible to send mail to users whose *name* is longer than 8 characters; the gateway returns the error message User@Node too long. If this happens, try truncating *name* to 8 characters.

At present, the EARN gateway provides only limited support for BITNET addresses of the form *name@site.domain*; some such addresses may be inaccessible through the gateway.

Mail from BITNET and EARN to JANET

A fully qualified JANET address is of the form *name*@uk.ac.*locn.node* (although the uk.ac. is often omitted within the UK). Simple BITNET mailers will not recognize addresses within JANET directly, and with such mailers it is necessary to construct a mail file with an explicit header as described below. However, more sophisticated BITNET mailers (notably the commonly used Columbia mailer) can construct the file themselves, and it is worthwhile to experiment with sending mail to *name@node.locn*.ac.uk (note that the elements of the fully qualified JANET nodename are reversed to conform with US naming conventions). Eventually, most mailers should be able to interpret addresses of this form.

If this does not work, construct a file starting with the following lines (making the obvious substitutions as appropriate):

Date: *22 Oct 86 16:50:20 EDT*
From: *your BITNET address*
To: *name@node.locn*.ac.uk
The text of your message, separated from the header by a blank line.

The file must not contain carriage control characters or FORTRAN sequence numbers. The complete file containing this header should then be sent as an RSCS PUNCH file (using BITNET file transfer, not mail) to mailer@ukacrl. This may be what happens automatically when you send a file, or it may not; note that RSCS PRINT and DISK DUMP format files do not get through the gateway safely.

The header is actually allowed to be considerably more complicated than shown above, but this skeletal example should work. Note that gateways are liable to alter the items appearing in the header (and insert extra lines), so that what appears here in messages received may bear little relationship to what the sender inserted.

ARPA

The ARPA gateway at UCL is somewhat simpler to use and more versatile than the Rutherford BITNET gateway, particularly for mail entering the UK. However, any use of the ARPA gateway requires that either the sender or the recipient be explicitly authorized, and unauthorized mail is automatically rejected. In the UK, obtaining authorization is reasonably straightforward for people

 0263-7855/87/010057-02 $03.00

holding SERC Research Grants. Enquiries should go to your local computer service in the first instance; failing that, send a message to liaison@uk.ac.ucl.cs, asking for the necessary forms.

Mail from JANET to ARPA

Normal ARPA addresses are of the form *name@site* (sometimes specified as *name@site*.arpa or *name@site*.edu, although not all sites in the domain edu are on ARPA). Mail can be sent from JANET nodes using the usual network mail commands, specifying the address as *name%site*.arpa@ucl.cs.

Mail from ARPA to JANET

A fully qualified JANET address is of the form *name*@uk.ac.*locn.node* (although the uk.ac. is often omitted within the UK). Mail can be sent from ARPA sites by specifying the address as *name%locn.node*@ucl.cs. Note that, from within ARPA, the address of the gateway is ucl-cs, whereas from within JANET it is ucl.cs.

Addresses of the form *name@node.locn*.ac.uk may also work with some mailers.

OTHER NETWORKS

Sending mail from JANET into networks other than BITNET, EARN and ARPA is often possible, but is largely a matter of trial and error. From within JANET, the forms *name%site.network*@rl.earn and (if authorized) *name%site.network*@ucl.cs are worth trying. For example, it is possible to send mail to ARPA addresses using *name%site*.arpa@rl.earn, or to BITNET addresses using *name%site*.bitnet@ucl.cs. It is also possible to gain access to other networks by sending mail through additional gateways explicitly, using addresses such as *name%site%*relay.cs.net@ucl.cs (for the CSNET network) and *address%*seismo.css.gov@ucl.cs (for UUCP addresses in the USA).

FULL DOCUMENTATION

Full documentation on the Rutherford EARN/BITNET gateway is available in the UK by using JANET file transfer to fetch the file 'JANET EARNGATE' from user 'NETSERV//193' at JANET site rl.earn. No password is required. This file is also available to BITNET/EARN users by sending a file containing the line GET JANET EARNGATE to netserv@ukacrl. Users of BITNET VM/CMS machines which do no support the Columbia mailer may find the netserv file CROSSNET EXEC useful in sending mail from BITNET to other networks.

Full documentation on the Arpa gateway is sent to users when they are authorized to use it.

FILE TRANSFER

For large files (more than, say, 200 lines) file transfer incurs less overhead than mail. It is possible to perform file transfer through both BITNET and ARPA gateways, and the mechanisms are described in the full documentation.

ADDRESS LIST

A preliminary list of electronic mail addresses follows.

Users authorized to send and receive mail through the ARPA gateway at UCL are indicated with an asterisk.

Millard H Alexander	*mha@umcincom*	(BITNET)
Robert J Allan	*allan@uk.ac.dl.dlgm*	(JANET)
R D Amos	*rda3@uk.ac.cam.phx*	(JANET)*
J A Beswick	*lur003@frors31*	(EARN)
P R Brooks	*pbrooks@rice*	(BITNET)
P R Bunker	*prb@nrcvm01*	(BITNET)
P Brumer	*brumer@utoronto*	(BITNET)
David C Clary	*dcc4@uk.ac.cam.phx*	(JANET)*
J N L Connor	*ymumjc@uk.ac.umist*	(JANET)*
David L Cooper	*sk70@uk.ac.liv.ibm*	(JANET)*
F F Crim	*crim@wiscmacc*	(BITNET)
Alan S Dickinson	*phi7@uk.ac.ncl.mts*	(JANET)
D R Flower	*pho0@uk.ac.dur.mts*	(JANET)
P W Fowler	*fowler.pw@uk.ac.ex.pc*	(JANET)
J F Gaw	*jfg10@uk.ac.cam.phx*	(JANET)
Sheldon Green	*agxsg@nasagiss*	(BITNET)
N C Handy	*nchl1@uk.ac.cam.phx*	(JANET)*
E J Heller	*heller@uwachem*	(BITNET)
David M Hirst	*msraf@uk.ac.warwick.sky*	(JANET)
P L Houston	*gesj@cornella*	(BITNET)
Jeremy M Hutson	*chq7@uk.ac.dur.mts*	(JANET)
P J Knowles	*pjk2@uk.ac.cam.phx*	(JANET)
Robert J Le Roy	*leroy@watdcs*	(BITNET)
R D Levine	*rafi@hujifh*	(EARN)
R M Lynden-Bell	*rmlb@uk.ac.cam.phx*	(JANET)
A J McCaffery	*kafi5@uk.ac.susx.vax2*	(JANET)
F R McCourt	*mccourt@watdcs*	(BITNET)
I R McDonald	*irm1@uk.ac.cam.phx*	(JANET)
David J Nesbitt	*djn@jila*	(BITNET)
E Pollak	*cfpollak@weizmann*	(EARN)
S L Price	*slm1@uk.ac.cam.phx*	(JANET)
W G Richards	*gr@uk.ac.ox.vax2*	(JANET)
Peter J Sarre	*psarre@uk.ac.nott.vaxa*	(JANET)
George C Schatz	*schatz@anlchm*	(BITNET)
A J Stone	*ajs1@uk.ac.cam.phx*	(JANET)
Jonathan Tennyson	*ucap22j@uk.ac.ucl.euclid*	(JANET)
A van der Avoird	*u644101@hnykun11*	(EARN)
J K G Watson	*jkg@nrcvm01*	(BITNET)
C M Western	*western@uk.ac.bris.csa*	(JANET)
J C Whitehead	*jw@uk.ac.dl.dlgm*	(JANET)*
R N Zare	*fbrnz@stanford*	(BITNET)

Anyone who would like their address published in the Journal of Molecular Graphics should contact the Editor.