

오펙, 아카데미 라이브러리 그리고 자네트

OPACs, Academic Libraries and JANET

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초 록

1980년대 이래로 온라인목록은 꾸준한 발전을 가져왔으며, 특히 UK(United Kingdom)에서 JANET(the Joint Academic Network)의 출현은 도서관자동화, 온라인목록, 도서관 상호대차와 같은 다양한 부문에서 대학도서관의 혁신을 가져왔다.

본 연구에서는 이용자가 JANET를 경유하여 UK 대학도서관들의 온라인목록을 어떻게 접속하고 이용하는가를 고찰하였다.

1. Introduction

Today's telecommunication networks, such as LAN and WAN, are important issues in academic libraries and information communities. In respect to OPACs and JANET, this study provides how to contact and use the UK academic libraries via JANET.

2. JANET

2.1 What is JANET

JANET is the United Kingdom's Joint Academic Network, which links all the British universities, including former polytechnic and research councils. It was

established on April 1, 1984 by combining existing a variety of X.25 packet-switched and non-X.25 circuit-switched networks and by the computer Board(for the Universities and Research Councils) and SERC(the Science and Engineering Research Council). Its purpose is to facilitate access to academic computer resources across the UK, in the interest of teaching and research.

It is now funded by the Information Systems Committee(ISC) of the Universities Funding Council, and has direct links and gateways to several other networks(e.g. Internet). Moreover, and users in the academic and research community do not pay directly for their use of the network.

2.2 Developments (1984 - now)

The first JANET was served by X.25 packet-switched(standard), and had been based on national computing facilities at London, Manchester, Edinburgh, and the Rutherford Appleton Laboratory at Chilton(Stone 1990, 6). It also called "star networks".

Since 1984, JANET has gradually improved: the number of users(end user and library), high speed, campus networks widespread, with gateways to other academic networks and to PSS/IPSS, JANET News, NICS, OPACs, Network News, and Bulletin Boards and Information services and so on.

The network("trunk") is based on the eight packet switching exchanges located at the Network Operation Centres(NOCs), which comprise a core of four at London, Manchester, Rutherford and Daresbury and the outer four of Cambridge, Bath, Belfast and Edinburgh(MacColl 1989, 21-33). In addition, it is connected to every local site in the UK .

JANET is now carrying out JANET II which is implemented with 2mbps(megabits per second) access. In his UK JANET's Research, Stone is estimated that:

- several thousand host computers and workstations
- using a mix of over 20 operating systems
- serve a population of over 50,000 terminals and personal computers
- over 1,750 electronic mail services
- over 2,000 systems supporting file transfer
- over 350 supporting networked remote job transfer and management (Stone 1992, 45-87).

Recently, planning for SuperJANET was announced and funded by the Secretary of State for Education in November 1991. It is faster than existing JANET.

3. The library connections: JANET

As users want to connect to a remote academic library through JANET service, they have to attempt as NRS names or NRS addresses via PAD.

3.1 PAD access

A PAD stands for "Packet Assembler-Disassembler". It uses the headers to rejoin the packets before passing the signal on to the recipient (Deeson 1991, 244-245). It is situated at the user's local computer center, and display in the user's computer terminal screen as 'PAD prompt' ("PAD>").

PADs can usually store a list of 'mnemonics', which can be used instead of the number of mnemonics on the list is often limited, so the user's may have to resort to the numeric version(Buxton 1988, 250-263). For example, the user has to input their NRS name or address in order to use the service of academic library of JANET news :

```
. PAD> call ABERYSTWYTH.LIBRARY  
      ( or aber.lib )  
. PAD> call 0000 1300 0007  
(for University of Wales at Aberystwyth)  
. PAD> call JANET.NEWS  
(for the JANET.NEWS bulletin board).
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Consequently, to contact JANET with the PAD, the following methods must be met: 1) there must be a physical link from your terminal to either the PAD itself, or to the computer on which the software PAD runs and 2) there must be a procedure for calling the PAD by means of your keyboard from a terminal or micro (Guide for libraries on JANET 1989, 10-11). Once the call through PAD is in progress, it is possible to get back to the PAD

prompt by entering "<ctrl + P> A". This send a 'CLEAR' command to the PAD.

NRS_address	NRS_name	NRS_abbreviation
0000 6012 1000 68	BATHLIBRARY	bath.lib
0000 1400 1200	DURHAM.LIBRARY	dur.library
0000 5200 1017	ARWICK.OPAC	warwk.opac

3.2 THE NRS

The NRS, the national 'Name Registration Scheme', keeps a database which record a standard name and abbreviation name for all UK's JANET sites. UK academic libraries using JANET are registered in the NRS which consists of the NRS names and the numeric address.

3.2.1 NRS names

NRS names are unique for each library, and constitute the following elements having an hierarchical structure:

viz : <Country> . <AcademicCommunity>
 .<Site>. <Service>
 e.g. : UK. AC. SUSSEX. CLUSTER

Such elements are user-friendly and makes it easy to use. NRS name-servers are conventionally used to address Mail and File Transfers, and may be available to users of a software PAD connecting interactively to a remote service.

However, "most access to networked interactive services(e.g. OPACs) is through hardware PADs." (Stone 1990, 10) Most NRS names are also able to using as the type of abbreviated versions like the next section.

3.2.2 NRS addresses

NRS addresses are composed of either 12 or 14 digits, and such numeric addresses should be regarded as standard. JANET could be connected one of the "NRS address", "NRS name", and "NRS abbreviation" via PAD. The following is shown their examples.

4. Access to OPACs

Since intermediaries(librarians) and end-users have initially begun access to OPACs through JANET in 1986, there are now running over 74 OPACs in UK academic libraries.

4.1 Other libraries' OPACs at Aberystwyth

The University of Wales at Aberystwyth terminals on campus with have access to the JANET network can be used to access the local OPAC by typing call lib(e.g. PAD) call lib). OPACs are normally available everyday from Monday to Sunday.

Other online public access catalogues using various integrated library systems (e.g. BLCMP, DOBIS/LIBIS, DYNIX, GEAC and LIBERTAS) are available though JANET. They, namely, other academic libraries' OPACs(off campus) type call either the NRS names (e.g. lut.lib) or addresses(e.g. 0000 1050 0205) (see Figure 1).

They are also able to utilization via the NISS (National Information on Software Services) Bulletin Board, which was established in 1987 and is now based at the University of Bath.

Call UK. AC. NISS or 000062200000

Futhermore, other OPACs and JANET services may also be easily accessed via a software package, known as SALBIN(the Scottish Academic Libraries Bibliographic Network) (see Figure 3).

4.2 User-friendly access

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ISO Etherpad 75 (D.I.L.S. workstation room 121) 3 DEC 90 line 6 speed 9600
Computer Unit, University College of Wales, Aberystwyth

CampPAD> call 000010500205
*** Call connected
YALE ACC II TERMINAL COMMUNICATIONS SYSTEM LL, 1. 2-A

enter terminal type : vt 100
F1=HELP
    
```

Figure 1 Making a call from University of Wales, Aberystwyth to University of Liverpool Library DOBIS/LIBIS Computer via JANET

In existing OPACs the user have to use the NRS names or addresses via PAD to connect other OPACs through JANET. However, The Loughborough University of

Technology library OPACs and the Scottish Academic Libraries Bibliographic Information Network (SALBIN) are directly available without 'PADP, 'NRS names' and

L U T Library Menu System	- DOS - Terminal apps - OPACs ----- - Emulation software	-Aston -Bath -Belfast -Bristol -Cambridge -City of London Poly -Dundee -Dundee Tech -Durham -East Anglia -Edinburgh -Glasgow -Hull -Kent -Leeds -Leeds Med & Dent lib
Select with start with <-- F9=DOS F10=HELP		

Figure 2 Initial Menu - User -friendly access (1)

UCW-JANET Libraries Bibliographic Information Network	
Welsh libraries	
1 : Aberystwyth	LIBERTAS
2 : Bangor	GEAC
3 : Lampeter	LIBERTAS
4 : Cardiff	LIBERTAS
5 : Swansea	LIBERTAS
6 : National Library of Wales	LIBERTAS
7 : --> UK University Libraries	
8 : --> Polytechnic / Other Libraries	
9 : --> Information Resources	
10 : Connect to PAD	
Enter number of selection :	
Salbin: MENU	[F1]--HELP [F10]--EXIT

Figure 3 Access to OPACs via SALBIN at Aberystwyth-User-friendly access(II)

'NRS address'.

In Loughborough University of Technology(LUT) library OPACs, the user can move position using cursor control keys, such as right key(→), left key(←), up key (↑) and down key (↓). Figure 2 is shown the user's current position and how access to other universities' OPACs in the menu (Burton, Newport & Robins 1989, 257-268)(see Figure 2).

In contrast with above, SALBIN's users can be connected to OPACs by entering number of selection in the menu (see Figure 3). About the role of SALBIN, Ralls maintained that SALBIN should be based on the existing, independent, library system OPACs, linked to their Campus networks and hence to JANET and each other. JANET already existed as the required Wide Area Network(WAN) and had plenty of spare capacity (Ralls 1989, 28-31).

In conclusion, all the user has to do now is to cope with the idiosyncrasies of the OPAC being searched. SALBIN and Loughborough University library OPACs provide easy menu driven interface (user-friendly) to the Network.

5. Conclusion

The advent of the Joint Academic Network came out innovation of academic libraries in various parts, such as OPACs and interlibrary loan. As well users are available for the other OPACs at their academic libraries through JANET as well as SALBIN and NISS.

JANET has constantly developed since 1984 and in the near future the era of "Super JANET" is coming. It will be offered the technology to change existing JANET problems(e.g. delay, long pause and disconnect) and the characteristics of the existing library.

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