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the EARN Newsletter

Num. 7, July 1993 Published by the EARN Association\*

Editor: David Sitman\* Associate Editor: Nadine Grange\*

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Special thanks to Daniele Bovio\*, Hans Deckers\*, Lubos Elias\*, Karol

Fabian\*, Hans-Ulrich Giese\*, Gerhard Gonter\*, Peter Halgas\*, Dusan

Hruby\*, Turgut Kalfaoglu\*, Greg Lloyd\* and for their contributions.

Items which are followed by an asterisk (\*) are explained in the

glossary at the end of this newsletter.

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Next issue: September 1993

The deadline to submit articles for publication is 8 September 1993.

New project? New tool? New views on the network? Express your ideas in

EARNEST! Submit articles for publication, ideas for articles, letters,

etc., to Nadine Grange (grange@frors12.bitnet).

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1. Editor's Corner

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by David Sitman (a79@taunivm.bitnet)

Welcome to EARNEST 7, my first issue as editor. Like many new editors, I

have added a new masthead, brought in some new features, and shuffled

some columns around, all to give EARNEST my own personal stamp. Note

that Nadine Grange is now listed as Associate Editor. This is not a new

responsibility for Nadine, but simply recognition of all the hard work

that she has put into EARNEST since its inception. I would also like to

take this opportunity to thank my predecessor, Hans Deckers, and wish

him good luck.

Enjoy EARNEST!

2. VieGOPHER - A Gopher implementation for VM

------------------------------------------

by Gerhard Gonter <gonter@wu-wien.ac.at>

I am sure that many of you are already familiar with Gopher\*, the neat

little network resoure discovery tool that allows users to browse

through the Internet\* in an easy, menu-oriented fashion. This is made

possible by a system of servers which communicate with their clients by

means of the Gopher Protocol. Since the protocol is always the same,

users can stay in their (favorite) environment and still access servers

on whatever operating system these might run. Consequently, the amount

of information available in "Gopherspace" is already enormous.

Clients are available for virtually all operating systems where TCP/IP\*

is available. The Gopher Team at the University of Minnesota has

developed the protocol as well as the Unix\*-based server and the popular

clients for PCs and Macs. Other implementations were done by independent

developers and teams from all over the net.

Two different client and server systems have been developed for the

VM/CMS\* and ESA machines that make up a significant part of the

EARN/Bitnet network:

1. The Rice Gopher, developed by Rick Troth (Rice University, Texas) is

based on RXSOCKET (requires TCP/IP version 2) and CMS Pipelines and

consists of a server and a client. This package is available via

anonymous FTP from boombox.micro.umn.edu in /pub/gopher/Rice\_CMS.

2. VieGOPHER, developed by me, has a server which is based on REXTCPIP

(requires TCP/IP version 1 or 2). The client needs either REXTCPIP or

RXSOCKET for network transport and XEDIT for the user interface.

The software requirements for VieGOPHER mean that just about all VM/CMS

and ESA installations with TCP/IP can install Gopher and take advantage

of the information pool that is out there for the users to explore.

Among the institutions that have already installed the software are the

University of Maryland (UMDACC), San Jose State University (SJSU), the

University of West Florida (UWF), University of Connecticut (UCONNVM),

ant the universities of Heidelberg, Ulm and Braunschweig in Germany.

Other institutions made at least the client available for their users.

In this case it is possible for the administrator to provide simple root

menus without the need to run the real server.

Describing in words how to use a gopher client is not an easy task.

However, a few minutes is all it takes to learn the "touch and feel",

once the program is invoked. If you want to give it a try, just fetch

the necessary items from /pub/gopher/VieGOPHER at boombox.micro.umn.edu

or olymp.wu-wien.ac.at. Read the file viegophr.readme and install the

product with the installation engine ROSE which is available from the

same server. ROSE will prompt for a number of installable options, but

answering the questions by hitting the enter key will almost certainly

produce a working program.

If you have any questions, just drop me a line at: gonter@wu-wien.ac.at.

3. EARN News

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a. News from the Exec\*

-------------------

by Hans Deckers (deck@frors12.bitnet)

Highlights of the Executive\* meeting of 8 May 1993 in Trondheim:

- subject to no objection from the NOG\*, the use of VMNET between

Budapest and Linz is approved.

- a policy paper on what EARN should do if a country becomes

disconnected for technical or other reasons was further refined. The

paper will be sent to NOG and Board of Directors\* for approval.

- preliminary arrangements for the Network Services Conference 1994 in

Bournemouth (UK) were approved.

- the Executive reviewed papers prepared for next day's BoD\* meeting.

b. News from the BoD

-------------------

by Hans Deckers (deck@frors12.bitnet)

A. Highlights of the EARN Board meeting of 9 and 10 May in Trondheim:

- LISTSERV\* for EARN

In the light of the NOG support for the development plan, the favorable

comparative testing of Eric Thomas\*' LISTSERV and the expected manpower

economies the plan is approved. The finance for 1993 will come from the

EARN contingency fund. It is understood that the contract will cover

maintenance of both the VM and VMS\* versions (assuming the VMS

development is successful).

The Board supports the development of a Unix based LISTSERV which CREN\*

may develop. The Executive is instructed to ensure that any such Unix

LISTSERV implementation is compatible with the current VM and expected

VMS versions.

- Plans about enhancing EARN distribution services - BOD11 93

In developing an unsolicited file transfer protocol over IP it is

expected to issue an open invitation for participation to develop an

RFC\*. EARN will open a Special Interest Group for the protocol

definition. There would need to be close liaison with RIPE\*. The

manpower required to organize this is expected to be of the order of a

few man months.

- Draft 1994 budget

At the request of several countries a wish to see a substantial

reduction in budget was minuted. There will be no payment to EBONE\* in

1994 from the EARN association as countries are assumed to contribute

directly to EBONE or otherwise secure their lower level connectivity.

- A proposal for a new role for EARN in new countries was approved

(BOD22 93).

- Offer from OU\* - BOD23 93

The Board considered the offer from the Operational Unit\* to run the

EARN NJE\* and LISTSERV activities as premature.

- Approval of new members

Georgia and Ukraine were approved as new country members.

>From January 1, 1994 the Czech Republic and Slovakia will be separate

countries with respect to ITU membership, with ISO codes CZ and SK,

respectively. This split will be reflected in EARN membership and both

countries were approved as EARN members.

B. Message from the President to BoD and NOG (10 June 1993):

"Dear colleagues,

After consulting the Executive Committee, Jean-Loic Delhaye\* and I have

signed an agreement with Hans Deckers, our General Manager, that he will

leave EARN on 31 August 1993.

The Executive does not plan to fill the vacant position in the near

future and Hans Deckers will use his remaining time with EARN to

conclude a number of activities and to transfer his ongoing tasks to

EARN Staff and to the EARN Association officers.

As a personal comment, let me thank Hans for managing EARN in a dynamic

period of geographical expansion and technical transition. He has done

so in a conscientious, positive and loyal manner for more than three

years.

Regards/Frode"

c. News from the NOG

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by Nadine Grange (grange@frors12.bitnet)

The latest EARN Network Operation Group\* (NOG) meeting was held in

Trondheim in conjuction with the JENC4 Conference\*.

Discussions focused on the future of the EARN services and their

provision beyond the NJE infrastructure. The availability of the

"Revised Listserv" to the EARN users was addressed also during this

meeting (read next article). The goal was to provide the Executive

Committee and the Board of Directors with technical recommendations.

A. Distribution services

To maintain an efficient distribution across the network, servers (eg,

Listserv) should have information about the network topology: the

distance between 2 servers and which server serves a certain user.

Details are given in paper EXEC17 93.

The NOG noted that in order to efficiently continue to provide current

EARN services in the Internet world, the necessary topological

information must be collected and maintained. This requires mapping

domain addresses to servers and storing the information in a file

similar to the DOMAIN NAMES file. This file could be used for

distribution services on top of any technology. The Routing Project

Group will study the details concerning the internal structure of the

file.

The Network Country Coordinators\* will be involved in the collection and

update process. CREN will be invited to collaborate for the Bitnet\*

network.

B. File Transfer Mechanism over TCP/IP

TCP/IP does not presently offer an efficient method for the unsolicited

transfer of files: the use of FTP\* is unrealistic (it requires password

validation) and SMTP\* has too many limitations (size and encoding) and

has poor performance. Therefore, it is difficult to build a service with

a good level of reliability.

The solution is to specify a file transfer protocol over TCP/IP similar

to the NJE SENDFILE\*. The implementation should not be limited to a

particular server (eg, Listserv), but it should become a service which

could be used by anyone.

The NOG recommended that a Special Interest Group (SIG) be created for

the specification of such a protocol.

Note: this SIG was established in June with the goal of defining a

protocol for unsolicited file transfer. The new protocol should be able

to support VM, VMS, and Unix file systems and will be put into the

public domain. The group works through the mailing list:

UFT-L@EARNCC.BITNET and is currently open to all. Later on, membership

could be limited to active contributors only, in order to help finalize

the project.

4. The Future of the Listserv service in EARN

------------------------------------------

by David Sitman (a79@taunivm.bitnet)

The strategic importance to EARN of the Listserv service has been borne

out by a number of recent activities and decisions. At the user services

level, EARN has produced two pocket reference cards: Starting Out with

LISTSERV, for people who are unfamiliar with the service, and LISTSERV

Quick Reference, containing summaries of all the important user commands

and functions. Electronic versions of these reference cards are

available from: LISTSERV@EARNCC.BITNET\*. Send mail containing the line:

GET fn ft

where 'fn' can be either LSVSTART or LSVQUICK, and 'ft' can be either PS

or MEMO (to get a PostScript or plain text version). EARN is about to

distribute a Listserv Users Guide, containing detailed descriptions of

Listserv commands and usage for end-users. An announcement of

availability will be distributed throughout the network shortly.

On the infrastructure level, EARN has reached an agreement with Eric

Thomas, the author of Revised LISTSERV, to distribute the Revised

LISTSERV software to sites in EARN. Over the summer, EARN sites will

migrate from the LISTEARN version to Revised LISTSERV, and support will

be withdrawn from LISTEARN on 1 September 1993. A few EARN core sites\*

have always run Revised LISTSERV (SEARN, CEARN), and a few others have

migrated recently (HEARN, DEARN, TAUNIVM). They have reported favorable

experiences with the new version. The EARN Staff will provide software,

documentation and support for all EARN sites installing and running

Revised LISTSERV.

EARN has also been active on the development level. Today, the LISTSERV

software can be installed only on the IBM VM platform, and the LISTSERV

servers intercommunicate only over the NJE network. With the changes

that have taken place in academic computing and networking, it is clear

that there is a need for LISTSERV-compatible software on non-VM

platforms, and for server communication over TCP/IP. EARN is supporting

a plan by Eric Thomas to develop LISTSERV-compatible software for the

VMS operating system. EARN has also expressed willingness to support

plans by CREN to develop server software for Unix, if compatibility with

LISTSERV is ensured. For end-users, the EARN Staff is investigating the

feasibility of developing user-friendly interfaces for communicating

with LISTSERV.

5. Server World

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by Turgut Kalfaoglu (turgut@frors12.bitnet)

Welcome to the sixth issue of the server world. As always, I'll try to

provide some news, trivia and statistics about some servers running in

EARN.

NETNEWS\*

The big move is a reality! The Usenet\* news feed system in Europe has

been drastically changed. Up until last month, NETNEWS@FRMOP11, the

server at Montpellier, France, had been the primary source for the news

feed in Europe. FRMOP11 provided a feed to a dozen sites which then

distributed the news locally into their countries. While this setup was

very network-efficient, it relied too much on the single NETNEWS server

at Montpellier. During outages, most of Europe had to do without news

stretching several days at a time.

The new structure calls for a distribution of tasks between DEARN, the

German server, and FRMOP11: The sites close to DEARN will now obtain

news directly from this server, while sites close to FRMOP11 will

continue to get their Usenet news feed from Montpellier.

TRICKLE\*

On the TRICKLE front, we have several news items: Trickle now mirrors

the LINUX and GARFIELD directories. LINUX is an exact copy of the famous

FUNET archives, providing a complete Unix system for 386 and 486 systems

for a fraction of the cost. Garfield is a copy of

garfield.catt.ncsu.edu's popular FTP site for multimedia applications,

featuring pictures and sound files for virtually every system. These two

directories, like several others, are provided by the FTPSERV@FRMOP11.

FTPSERV is the server that handles low-level activity such as updating

directories and fetching files requested by users.

METUFTP

After Turkey's connection to the internet world, Middle Eastern

Technical University has started its own BITFTP\* server. Called

METUFTP@TRMETU, this server provides a fast alternative to the

overloaded NJE connection. The latter is going to be upgraded Very Soon

Now.

PDHASH

While PDHASH is not exactly a server, it is a utility fueled by the need

to speed up certain basic functions of the TRICKLE server. This package

allows very fast access to data in large files, by maintaining this file

in hash format. Those of you who studied computer science might recall

from your textbooks that this method involves turning data to be stored

into a number, and using the number as the location to store the data.

In short, it translates into the difference between reading 10 lines

instead of 5000 lines on the average to find a record in a file that is

ten thousand lines long. PDHASH allows conversion, locating, adding and

deleting data from such files. If you have a need for a such utility,

contact me.

LISTMON

Listmon is a mini-server whose only task is to collect data. Running at

the EARNCC node, it provides statistical data about servers. A recent

addition to LISTMON will provide more accurate statistical data about

Revised LISTSERV servers in Europe. Waking up at regular intervals and

sending "SHOW" commands to these servers, LISTMON records all the data

it obtains. This data is available to anyone, and when processed with a

post-processor, will permit the creation of reports that include the

number of list messages, the number of users served, number of DIST jobs

created and processed on a daily basis.

STATISTICS

The numbers below are projections based on the first 25 days of the

month of June, 1993:

\* LISTSERV@FRMOP11 has processed 68,000 incoming files this month,

creating 122,000 outbound DIST jobs as a result.

\* TRICKLE has received close to 50,000 user commands this month,

resulting in 5 gigabytes of output. It is most popular in Germany

(17%) followed by USA (16%).

\* NETNEWS@FRMOP11 has received about 5 gigabytes of data from the US

and its NNTP\* servers, outputting 12 gigabytes of data to sites in

France (50%), Belgium (16%), Spain (16%), Germany (7%), Turkey (3%)

and USA (1%).

I hope to provide similar statistics for NETNEWS@DEARN for the next

issue of EARNEST. Until then, take care.

6. Documentation for end users

---------------------------

by David Sitman (a79@taunivm.bitnet)

The electronic version of the Guide to Network Resource Tools has been

updated. The new version fixes various bugs and errors from the previous

version, but no new sections have been added. A comprehensive revision

is now underway, and a much-improved second edition will be available,

in hardcopy and electronically, in time for the Network Services

Conference in October 1993.

The Guide to Network Resource Tools describes many of the key tools in

use today among the academic networking community for accessing

resources on the net.

The Guide to Network Resource Tools is available electronically from:

LISTSERV@EARNCC.BITNET

in Postscript and plain text format.

To get the Guide to Network Resource Tools, send the command:

GET NETTOOLS PS (Postscript format)

GET NETTOOLS MEMO (plain text format)

It is also available via anonymous FTP\* from the following sites:

- ns.ripe.net

- naic.nasa.gov

- ds.internic.net

7. EARN member profile: Slovakia

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by Peter Halgas (halgas@uakom.sk), Karol Fabian (fabian@uakom.sk),

Dusan Hruby (hruby@uakom.sk) and Lubos Elias (elias@uakom.sk)

SANET (Slovak Academic Network) is a wide-area network based on the

TCP/IP protocol suite which provides connectivity and network services

to academic and research institutions in Slovakia. The core backbone of

the network (Bratislava - Banska Bystrica - Kosice) was successfully

built in 1991 and several cities were connected to it. The network

provides users with typical TCP/IP services like remote login, file

transfer, electronic mail and network news. After the starting period

when the only users were network specialists, new non-computer users and

even non-technical users appeared. The majority of these new users don't

know much about TCP/IP services and have problems finding the

information they need on the network. For this reason there was a strong

requirement to introduce new tools and services on the network that

allow users to easily discover, locate and retrieve information freely

available on the Internet.

Several tools are currently available on the Internet to facilitate the

task of locating and retrieving networked resources. The most important

representatives of them are archie\*, Gopher, WAIS\* and World-Wide-Web\*.

The main goal of these services is global sharing of information

resources and ability to give the users an easy-to-use and powerful tool

for gaining access to all information located anywhere on the network.

In order to provide the new navigation and information discovery

services to the end users of SANET, one host machine at UAKOM SAV in

Banska Bystrica was dedicated for this purpose. The domain name of this

computer is "nic.uakom.sk", and it is a SPARC Server 10 machine (Sun).

This machine is already known on the SANET network as one of the main

information servers. Several application servers were installed on

"nic", which allowed users access to its large document databases as

well as to find information located anywhere on the Internet. Since

becoming operational, "nic" has provided services to users through its

anonymous FTP server and aided in locating users and organizations via a

NETFIND\* server. In the midle of 1992 "nic" became a national X.500\*

DSA\* server for Czechoslovakia. Since the split of the federal republic,

it acts now as a national DSA for Slovakia. Since the end of 1992 one of

the first Gopher servers in SANET has been operational on this machine.

To ensure a high quality of service, a lot of attention has been paid to

the organization of the WWW\* server and organization of the home page,

which the server presents users. The home page is split into three

paragraphs. The first paragraph briefly describes the key features of

WWW. The second paragraph is intended to provide users with links to

allow them to find information on the Internet using different criteria.

Users can search documents by subject, by type of information server or

by organization. There is a direct link to the InterNIC\* info server

too. The third paragraph presents users with other servers running at

UAKOM and gives them to access these services directly from the web.

These services are: FTP server, NETFIND server, GOPHER server and X.500

national DSA.

In the FTP server on "nic.uakom.sk" there is located a multimedia

database with many image, sound and video files. We have installed the

appropriate viewers and player programs on the client machine and ran

many tests with retrieving and presenting multimedia information to a

user.

To demonstrate the possibilities of the WWW system an experimental

hypermedia information guide of Banska Bystrica was created. Many of the

WWW capabilities in the area of multimedia were exploited here. This

information guide provides users with a brief description of the history

of the town with most valuable artistic-historic memorials of Banska

Bystrica and the nearby tourist attractions. This hypermedia application

combines textual information with links to color photographic images and

moving video recordings of interesting objects. The next step will be

including sound effects for some objects. From the user's point of view

this presentation is very attractive. In the near future, we would like

to build the SANET network information database with various multimedia

objects, such as maps, photographs and sounds.

The new hypertext information server at UAKOM was intended primarily to

make it easy for new users to find information located anywhere on the

Internet. This means that the server should be accessible to as many

users as possible, from dumb terminals, PCs as well as from XWindow

workstations. For this purpose, on computers at the local UAKOM LAN\*

several types of the WWW client programs were installed. For remote

users who don't have their own WWW client program, public www accounts

for line-mode terminal WWW access were set up. Thus, even users who are

dialing in to one of SANET's nodes can benefit from this service. In the

future, we would like to extend access possibilities by installing a

mail server which will respond to users queries by e-mail.

8. NSC'93 - Invitation and Preliminary Program

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by David Sitman (a79@taunivm.bitnet)

NSC'93

The Network Services Conference 1993

Warsaw, Poland, 12-14 October 1993

Invitation

Networking in the academic and research environment has evolved into an

important tool for researchers in all disciplines. High quality network

services and tools are essential parts of the research infrastructure.

Building on the success of the first Network Services Conference in Pisa

Italy, NSC'93 will focus on the issue of providing services to

customers, with special attention paid to the actual usage of the

various tools available. We will address the impact of today's global

tools on service development and support, the changing function of

traditional tools and services (such as archives), new services (such as

multi-media communications), the future role of the library and the

effects of commercialization of networks and network services. Customer

support at the institutional and campus level, and the role of support

in accessing global services, will also be covered.

Talks, tutorials, demonstrations and other conference activities will

address the needs of the research, academic, educational, governmental,

industrial, and commercial network communities.

Tutorial sessions on specific network services have been integrated into

the regular conference program. Practical issues in the use of these

services and tools will be covered in detail by experts. Throughout the

conference, participants will be able to get hands-on experience in the

well-equipped demonstration area.

NSC'93 is being organized by EARN in conjunction with EUnet\*, NORDUnet\*,

RARE\*, and RIPE.

Sessions and Presentations

Note: exact titles and speakers to be confirmed

Tuesday, October 12

9:00-10:30 Plenary Session

Keynote Talk

- The Global Internetworking Dynamic: Critical Information

Infrastructure - Anthony M. Rutkowski

11:00-12:30 Parallel Sessions

A1 User Support (1)

- Sowing the Networking Seed: The Gardeners Experience - David Hartland

- Issues in Training Users to Use the Network - Margaret Isaacs

- The EARN Help Desk: a Pilot in International End-User Support -

Daniel Bovio

B1 Special Session on Networking Tools

12:30 Lunch

14:00-15:30 Parallel Sessions

A2 Information Services

- Building a Campus Wide Information System, Problems and Solutions -

Jan van Beek, Marijke Verheij

- Cooperation between the National Research Network Service and the

National Library in the Netherlands -

Michel G.Wesseling, Titia van der Werff

- Jurists Getting Used to the Network or the Changing Role of the

Information Specialist - Chris Groeneveld

B2 Tutorial (1)

- Networking Tools on your PC - Bert Stals

16:00-17:30 Parallel Sessions

A3 Network Resource Tools

- The Clearinghouse for Networked Information Discovery and Retrieval -

George Brett

- User Network Interface to Everything - George Munroe

- W.A.S.A.T. - Wide Area Search and Transfer -

Krzysztof Heller, Tomasz Plonka, Rafal Urbanczyk

B3 Network Services on an Emerging Infrastructure

- Present State of the Polish Research and Academic Computer Network -

Daniel Jozef Bem

- About Networking in Lithuania, 1993 - Jonas Mockus

- Hypermedia in Slovakia -

Peter Halgas, Karol Fabian, Dusan Hruby, Lubos Elias

- Some Aspects of the Romanian Academic Network -

Eugenie Staicut, Iulian Popa

17:30 Birds of a Feather Sessions (BOFs)

Birds of a Feather Sessions may be convened at the request of

any delegate to discuss a specific product, problem or

concern. Other delegates, either with the same concern or who

can provide a solution are invited to sign up for attendance.

21:30 Concert

Wednesday, October 13

9:00-10:30 Parallel Sessions

A4 Technology Issues (1)

- Cooperative Work in Scientific Networking Today - Manfred Bogen

- UDINE a Universal Document Information and Navigation Entry -

Paul Muller, H. P. Gromann

- Networks as Tools for Hunting Historical Treasures - Rune Hjelsvold

B4 Tutorial (2)

- Delivering E-mail to the Desktop - Erik Lawaetz

11:00-12:30 Parallel Sessions

A5 Directory Services

- Before we Deliver Directory Services to the End-User... - Erik Huizer

- PARADISE in Transition - David Goodman

- Easy-to-Use Integrated Network Services User Interface Using X.500

Directory - Francisco Pinto, Joaquim Macedo, Vasco Freitas

B5 Publishing on the Network

- Publishing on the Network - Terry Morrow, Anne M.Mumford

- The Text Encoding Initiative: Towards an Extensible Standard for the

Encoding of Texts - Lou Burnard

12:30 Lunch

14:00-15:30 Parallel Sessions

A6 Technology Issues (2)

- Bringing the WAN home - Ton Verschuren, Bert Smeets, Remco Rutten

- The Virtual Tape Protocol and a Large Networked Data Store -

David Rigby, Tim Kidd

- National Character support in Telnet - Januz J. Mlodzianowski

B6 Tutorial (3)

- Using Listserv - Eric Thomas, Anthea Tillyer

16:00-17:30 Parallel Sessions

A7 Electronic Library

- Networked Collaborative Environments and Libraries: Models for Art

and Sciences - Richard Giordano, Geoff Bowker

- Library and Information Services over a Gigabit Network -

Michael Breaks

- Electronic Documents: Gaining Experience - Maria A.M. Heijne

B7 Networking for Schools

- Internet School Networking: a Global Perspective - Panel -

Bruce Nelson, Kathy Rutkowski, Art St George, Henk Sligte

19:30 Conference Dinner

Thursday, October 14

9:00-10:30 Parallel Sessions

A8 Expansion of the Network

- Transitioning a Service Provider out of Academia - Michael Haberler

- The Economic Case for Public Subsidy of the Internet -

Sandra Schickel

- Growth of the Matrix in Europe - John S.Quarterman, Gretchen Phillips

B8 User Support (2)

- Networked Information Services: Bringing Order to the Chaos? -

Jill Foster

- EARN End-User Documentation - David Sitman

- Panel Discussion on User Support Issues

11:00-12:30 Plenary Session

Keynote Talk

- A Glimpse at the Future - Dennis Jennings

12:30 Closing Cocktail

EARN and RARE Technical Meetings

The following EARN and RARE meetings will be held in conjunction with

the Conference.

- Convened by EARN:

Note that these meetings are by invitation only.

Routing Project Group\* (EARN-RPG):

Thursday, October 7 9:00 - 18:00

Network Operations Group (EARN-NOG):

Friday, October 8 9:00 - 18:00

Performance Evaluation Group (EARN-PEG):

Saturday, October 9 9:00 - 13:00

Executive Committee:

Monday, October 11 9:00 - 18:00

Board of Directors:

Thursday, October 14 14:00 - 18:00

Friday, October 15 9:00 - 18:00

- Convened by RARE:

Note that these technical working groups are open to anyone willing to

participate.

Information Services and User Support (WG-ISUS):

Monday, October 11 9:00 - 13:00

Thursday, October 14 14:00 - 18:00

Mail and Messaging (WG-MSG)

Monday, October 11 9:00 - 12:00

Network Application Support (Directory services, etc. - WG-NAP):

Monday, October 11 13:00 - 18:00

- Convened by EARN & RARE:

Note that this meeting is open.

EARN Information Services (EARNINFO\*)

& Information Services and User Support (WG-ISUS):

Monday, October 11 14:00 - 18:00

Registration

To get the registration form, send e-mail to: LISTSERV@FRORS12.BITNET

containing the line: GET NSC93 ANN2

You will receive the full conference announcement with a registration

form at the end.

9. New Nodes and Deleted Nodes in the Network

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by Hans-Ulrich Giese (u001212@hearn.bitnet)

The following nodes have joined EARN, Bitnet or the other cooperating

networks in May or June 1993.

The new nodes are listed below by country.

For details on any node, you can send mail to any LISTSERV machine,

eg: LISTSERV@FRMOP11.BITNET with the line: SHOW NODE nodename

Colombia:

JAVERCOL

Hungary:

HUBPSZ12 HUECO

Japan:

JPNCUCC JPNNDA

Russia:

IKI RUICPH

IKI2

Turkey:

TRMSU TRYTUVSE

TRSELCUK

United States:

AACCVM PSUCSE

EMUSPH SLACMH

NFATCBN1 UIUCVM42

NIHOD610 WCHRULST

PEPMAIL

A listing of the nodes which have been removed in May and June, and the

new address or the name of a person you can contact to obtain further

information, is given in the files NODES DEL9305 and NODES DEL9306

available on LISTSERV@FRORS12.BITNET. To receive the relevant file send

mail to LISTSERV@FRORS12.BITNET with the line:

GET NODES DEL93mm (where mm represents the month).

11. Statistics

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by Greg Lloyd (glloyd@frors12.bitnet)

and Daniele Bovio (hi@frors12.bitnet)

Here is the general overview on the BITEARN NODES\* file for June. It

includes the Minimum, Maximum and Average number of hops that exist in

the global NJE network.

---------------------------------------------------------------

June 93

General Statistics -

Number of nodes 3261

Number of links 3745

Hop Statistics -

Network diameter: 15

Average number of hops: 6.633

Minimum average hops: 3.778 at PUNFSV2

Maximum average hops: 10.727 at AROSARIO

---------------------------------------------------------------

The network diameter is the maximum distance that can be found between

two nodes.

GENERAL OVERVIEW OF DATA COLLECTION

In order to get a complete and objective picture of its network's

performance, EARN collects data along four scales. These are traffic

volume, link availability, link file queues and round trip times (RTTs)

for both files and interactive messages. These figures reveal how busy

the network has been (traffic volume); the percentage of time that

network links have been available to carry this traffic (link

availability); the size of any file queues that may be formed on these

links; and finally, a measurement of time showing delays in sending

files and interactive messages around the network.

EARN monitors its traffic volume, network links, file queues and message

RTTs down to its international level. That is, each member country

subscribed to the EARN Association has designated one international node

that acts as that country's gateway into the international network. A

subset of these international nodes have been selected as the EARN

backbone and make up the EARN Core nodes. The remaining international

nodes are allocated into regions, each region being serviced by a

specific EARN Core node. In addition to collecting figures on the above

three scales that relate solely to its own network, data is also

collected for EARN's transatlantic links with the BITNET network.

File RTTs are measured down to an inter-regional level (across the EARN

backbone). In addition to collecting figures relating solely to its own

international backbone, round trip time figures are also recorded for

EARN's transatlantic links with the BITNET network. These files traverse

a section of the BITNET backbone, cross the Atlantic and enter the EARN

backbone and are subsequently returned to the USA.

TRAFFIC, LINK AVAILABILITY AND QUEUES

This section reports on traffic volumes passing between the EARN network

regions and the performance of all regional network links. Traffic

volume is measured in the total amount of records sent and received

between each network region. Each record may contain up to eighty

characters (bytes) of information. Link performance is measured by the

percentage of time they were available for use and the average size of

file queues on them.

+------------------------------+------------+

| Link | Traffic |

+--------------+---------------+------------+

| Average | Average | Volume |

| Availability | Files Queued | (records) |

+--------------+---------------+------------+

1993 | | | |

January | 94.0 (%time) | 28.6 (files) | 418 M |

February | 93.4 (%time) | 42.9 (files) | 432 M |

March | 93.0 (%time) | 40.2 (files) | 506 M |

April | 92.2 (%time) | 44.6 (files) | n/a |

May | 89.9 (%time) | 41.6 (files) | n/a |

+--------------+---------------+------------+

During the first five months of 1993, a gradual decrease in overall link

availability has been observed. While EARN continues to support dial-in

connections for countries without permanent network links, the decline

in availability may also be attributed to isolated regional links that

have experienced both chronic and acute deterioration. Over this same

interval, the EARN core network links have recorded a fairly steady mean

of 95 percent availability. There have also been on-going improvements

in the physical network infrastructure supporting a majority of EARN

links that have caused some severe acute disruptions but which will

serve ultimately to improve these figures. The queue figures can be seen

to be holding steady at around forty. This is true inspite of the upward

trend in traffic volume and the decrease in link availability. There has

been an increase in the incidence of moderately sized acute queues

around network links that tend to build and clear quickly in response to

intermittent link down times and the growth in traffic. Overall, large

and chronic queues that appear on dial-in and saturated network links

have held more or less steady over this period.

ROUND TRIP TIMES

This section reports on Round Trip Times (RTTs). Two measurements of

Round Trip Time are made on the EARN network: by file and by interactive

message. The file RTTs are designed to approximate the quality of

service (in terms of elapsed time) a user may expect when transferring

files across the network. These figures are designed to measure the

speed with which files are physically moved on the network and any

delays caused by file queues that may be encountered. File RTTs are

measured for two different file sizes: the first is 50 records files

(representative of a typical piece of electronic mail) and the second,

1001 records files (representative of a medium sized data file). They

are measured on an hourly basis. Interactive message RTTs are designed

to approximate the quality of service (also in terms of elapsed time) a

user may expect when talking to other users or service machines on the

network. They are measured every ten minutes.

+--------------------+--------------------+-----------+

| 50 Record files | 1001 Record Files | Messages |

+----------+---------+----------+---------+-----------+

| Average | Overall | Average | Overall | Overall |

| Minimum | Average | Minimum | Average | Average |

+----------+---------+----------+---------+-----------+

1993 | | | | | |

January | 5 secs | 1m13s | 9 secs | 2m01s | 6.0 secs |

February | 4 secs | 3m05s | 7 secs | 3m41s | 7.0 secs |

March | 4 secs | 37s | 7 secs | 52s | 7.0 secs |

April | 4 secs | 39s | 7 secs | 50s | 8.0 secs |

May | 4 secs | 40s | 7 secs | 55s | 8.0 secs |

+----------+---------+----------+---------+-----------+

The minimum and average RTT figures show the average fastest and overall

average in time taken for files to be sent out and returned over the

network. These figures have been holding steady over the past three

months and show that on average, files can cross the EARN backbone and

the Atlantic to the US in under thirty seconds. There has been a slow

growth in the mean interactive message figure through the year. The

major links causing this increase are the middle and Eastern European

countries where physical transmission rates for data is still slow.

11. Upcoming events

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Meetings of Legislative Bodies:

EARN Board of Directors

. 14-15 October 1993 Warsaw, Poland

RARE Council of Administration\*

. 23-24 September 1993 Helsinki, Finland

. January 1994 (TBD) Amsterdam, The Netherlands

Conferences:

The Network Services Conference 1993 - NSC'93

organised by EARN in cooperation with

EUnet, NORDUnet, RARE and RIPE.

12-14 October 1993 Warsaw, Poland

IETF

12-16 July 1993 Amsterdam, The Netherlands

1-5 November 1993 Houston, United States

INET'93

17-20 August 1993 San Francisco, United States

Interop

23-27 August 1993 San Francisco, United States

25-29 October 1993 Paris, France

2-6 May 1994 Las Vegas, United States

12-16 September 1994 Atlanta, United States

SHARE

15-20 August 1993 Washington D.C., United States

20-25 February 1994 Anaheim, United States

7-12 August 1994 Boston, United States

Decus Europe Symposium

6-10 September 1993 Montreux, Switzerland

SHARE Europe (SEAS)

25-29 October 1993 The Hague, The Netherlands

(Anniversary Meeting)

INET'94/JENC5

13-17 June 1994 Prague, Czech Republic

The Network Services Conference 1994 - NSC'94

18-20 October 1994 Bournemouth, United Kingdom

12. Newsletter information

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If you would like to receive the EARN Newsletter automatically, send the

command:

SUBSCRIBE EARNEST First\_name Last\_name

to LISTSERV@FRORS12.BITNET. To consult the previous issues, send the

command:

GET EARNEST NEWSLTOC

to LISTSERV@FRORS12.BITNET. The last issue is also available from

NETSERV\* in the file EARNEST NEWSLET, send the command:

GET EARNEST NEWSLET

to the nearest NETSERV; a copy of the last issue is also kept in the

file EARNEST NEWSLET on LISTSERV@FRORS12.BITNET.

The EARN Newsletter is available at the RIPE NCC\*, thanks to Rob

Blokzijl from RIPE, by means of:

WAIS wais.ripe.net

Gopher gopher.ripe.net

WWW www.ripe.net

Interactive telnet info.ripe.net

Anonymous FTP ftp ftp.ripe.net

The interactive service also gives the possibility to have documents

returned by e-mail (for those who don't have FTP).

The EARN Newsletter is included on the CONCISE\* service, thanks to

Juliana Evans, from the CONCISE helpdesk.

If you want to retrieve the newsletters from this service by e-mail,

send the commands:

start

goto /networks/earn/earnest/issue-#

info

in a mail message to concise@concise.level-7.co.uk, where '#' is the

number of the issue you want.

For interactive access over X.25 networks dial:

IXI network address: 2043 3450 3999 15

Public X.25 address: 2342 3440 0193 15

Using this method, you will find it under NETWORKS (top-level index item

No. 23), then type 493 (for EARN), 495 will lead you to EARNEST and 496

(issue-1) will bring up the document.

13. EARNEST Glossary

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Here is a brief explanation of the items in this newsletter which are

marked with an asterisk (\*):

Anonymous FTP - special username (anonymous) that can be used by any

user to access and retrieve files on a FTP site; the e-mail

address is usually used as a password.

Archie - database of available files on most FTP sites.

BITEARN NODES - table of all the nodes and links in the international

NJE network (EARN, Bitnet\* and cooperating networks); every

computer which routes mail in the network must have a copy;

updated at least once a month.

BITFTP - Princeton BITNET FTP Server provides a mail interface to allow

BITNET/EARN/etc. users to ftp files from sites on the Internet.

BITNET - "Because It's Time" NETwork; originally, the academic network

in the US based on NJE; this term is popularly used to refer

to the whole international academic NJE network.

Board of Directors - BoD; EARN's legislative body; a representative from

each EARN member country.

Daniele Bovio - EARN Technical Manager, EARN Office, France.

CONCISE - COSINE Network's Central Information Service for Europe

core sites - Main sites in the regions defined in the EARN

regionalization plan (for details send the command

GET BOD7 91 to listserv@earncc.bitnet)

CREN - Corporation for Research and Educational Networking; Bitnet's

governing body

Hans Deckers - EARN General Manager, EARN Office, France

Jean-Loic Delhaye - member of the Executive Committee; Centre National

Universitaire Sud de Calcul, Montpellier, France.

DSA - Directory System Agent; access point to the X.500 directory

service.

EARN Association - European Academic and Research Network.

EARNINFO - EARN permanent group on Information Services

EBONE - European Backbone Network; operates a European core backbone

between 5 central sites (Amsterdam, Geneva, London,

Montpellier and Stockholm).

Lubos Elias - Slovak Academy of Science.

EUNet - European Unix Network; provides mail and news services, no more

restricted to the Unix community.

Executive Committee - EXEC; EARN's executive body; 7 members elected

from the EARN BoD;

Karol Fabian - Slovak Academy of Science.

FTP - File Transfer Protocol; method for transferring files over TCP/IP.

Hans-Ulrich Giese - EARN Master Coordinator, University of Nijmegen,

The Netherlands.

Gopher - The Internet Gopher is a distributed document delivery service

that allows a neophyte user to access various types of data

residing on multiple hosts in a seamless fashion.

Nadine Grange - Technical staff, EARN Office, France.

Peter Halgas - Slovak Academy of Science.

Dusan Hruby - Slovak Academy of Science.

InterNIC - the Internet Network Operation Center

JENC - Joint European Networking Conference; organized each year by RARE

in cooperation with other European networking organizations.

Turgut Kalfaoglu - Technical staff, EARN Office, France.

Internet - concatenation of many TCP/IP networks.

LAN - Local Area Network; network usually located within a campus or a

company.

Listserv - list servers, either "Revised Listserv" by Eric Thomas or

its derived version by EARN Association.

listserv@earncc.bitnet - Listserv address which hosts the filelist of

official EARN documents and minutes, and the documentation

for the end users.

Greg Lloyd - Technical staff, EARN Office, France.

NCC - Network Country Coordinator; main EARN contact in a country,

he/she coordinates the national EARN nodes.

NETFIND - provides textual information about people; it searches on

person's name and institution.

NETNEWS - computer bulletin board and conferencing system. Herein, it

refers to the VM/CMS implementation.

Netserv - NETwork SERVer; file server mostly dedicated to the

Network Magement

NJE - Network Job Entry; a service developed by IBM for reception and

transmission in a computer network; the basic service

provided by EARN, Bitnet and their cooperating networks.

NNTP - Network News Transfer Protocol; protocol used for transferring

the news.

NOG - Network Operations Group; technical body which oversees the

international network; one representative from each EARN

member country and the EARN staff.

NORDUnet - Research and Academic Network which covers Denmark, Finland,

Iceland, Norway and Sweden.

OSI - Open Standard Interconnection; constructor independent protocol

suite developed by the CCITT (International Telegraph and

Telephone Consultative Committee) for communication in a

computer network.

OU - Operational Unit; entity to provide network backbone services for

the European academic and research networking community.

RARE - Reseaux Associes pour la Recherche Europeenne; association of

European networking organizations.

RARE Council of Administration - CoA; RARE's legislative body.

RFC - Request For Comments; technical notes of the Internet research and

development community.

RIPE - Reseaux IP Europeens; collaborative organization of European

Internet service providers.

RIPE NCC - RIPE Network Coordination Center; provides network support

and services for the member organizations.

RPG - Routing Project Group; technical body which worked out the EARN

regionalization plan.

SENDFILE - VM/CMS implementation of the unsolicited file transfer used

in a NJE-only environment.

David Sitman - EARN Documentation Coordinator, Tel Aviv University,

Israel.

SMTP - Simple Mail Transfer Protocol; electronic mail transfer method

over TCP/IP.

TCP/IP - Transmission Control Protocol / Internet Protocol; constructor

independent protocol suite developed for communication in a

computer network.

Eric Thomas - Swedish University Network (SUNET), Kungliga Tekniska

Hogskolan, Stockholm, Sweden.

TRICKLE - server that mirrors software archives accessible via FTP and

caches recently requested files for faster delivery.

Unix - constructor independent operating system.

Usenet - provides the news broadcast service

VAX/VMS - operating system provided by Digital Equipment with their

machines.

VM/CMS - one of the operating systems provided by IBM with their

machines.

WAIS - Wide Area Information Server; experiment for automating the

search and retrieval of many types of electronic information

over wide area networks.

World Wide Web - WWW; client/server application that allows to retrieve

and browse documents from various sources: FTP sites,

newsgroups and other information systems such as Gopher or

WAIS.

X.500 - distributed directory service documented in the OSI\* protocol.