EARN Document

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NOG Meeting - Heraklion May 25-26 1989
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List Of Attendees

Niall O'Reilly	Dermot O'Brien	Jerry Striplin
Guenther Schmittner	Jean-Loic Delhaye	Hank Nussbacher
Dominique Dumas	Turgut Kalfaoglu	Jukka Korpela
Berthold Pasch	Pantelis Tzortzakis	Wim Brems
Bruno Durasse	Harri Salminen	Bruno Durasse
Sitki Aytac	Daniele Bovio	Laura Abba
Olivier Martin	Miguel Campos	Paul Bryant
Mirjana Tasic	Hans-Ulrich Giese	
Alain Auroux		

Agenda

1. Adoption of the agenda

During this topic, it was decided that I (Turgut) should place the EARN directives to NETSERV.

2. Report on EARN staff and contracted work A. Auroux

The routing tables management and update has been subcontracted to The University of Nijmegen, and Ulrich Giese has the responsibility of this job.

The development of the new GENROUTS program will be subcontracted to GMD, Bonn, and Peter Sylvester has the responsibility of this development. The draft design will be circulated to the NOG for comments when available.

Advertised Positions:
- OSI team with someone from EARN and 3 from
  DEC will be working in Amsterdam.
  Note: Since this NOG meeting, Niall O'Reilly has been appointed to that position.
- Turgut is starting to work on network software, documentation and user support at Izmir. He might eventually move to the EARN office in Paris at a later time.

3. EARN international topology H. Salminen

Alain reminds the NOG that any change in international configuration and/or change of protocols on the international lines must be reported by the NCCs to the NOG (it must also be reported to the EXEC by the BOD member.)

3.1 Finland-Sweden
3.2 Nordunet
3.3 Line Sweden-CERN

Harri gave a presentation showing current temporary setup that included FIPORT, FINHUTC, NORUNT, and DKEARN. He also presented a solution to alleviate CEARN-SEARN traffic that consisted of 64K lines and a backbone of G-Boxes. He will be reporting the results to NOG and BOD. Alain was concerned about the use of EARN lines for interactive use. Harri will be preparing a technical appendix. Based on Harri's presentation, the NOG did not oppose these changes in the Nordic countries' topology.

3.4 Belgium Line

Bruno Durasse reported that the Brussels->Paris line is being replaced by a 64KB/s line Leuven-Montpellier. This line will be multiplexed between EARN and EASInet traffic.

A discussion took place on the use of SNA on EARN international lines. This issue is postponed until the SNA group's report. (Target date: Mid-July.)

3.5 New Countries

Two new countries have joined EARN: Yugoslavia (to Austria) and Egypt (to France.) Alain announced that Egypt is the first international node on a VAX system. France (Dominique) accepted to collect the traffic data for Egypt on in interim basis.

Since Egypt is an end country, France can collect this data. Egypt will be requested to implement program to collect traffic data in the

EARN agreed format. Finland (Harri) and DEC accepted to help Egypt on this task. It was also noted that Egypt will use Montpellier's LISTSERV and NETSERV.

Olivier Martin noted that India (EARN associate country) using a VAX, is ready to be connected to CEARN. Alain stated that there are many other countries about to get connected as well, such as Pakistan (associate country), Algeria, Cyprus, Jordan, Morocco and Tunisia. Most of them will connect through a VAX as international nodes.

4. Traffic Statistics D. Dumas

Although statistics have been reliable since December, four countries have problems sending in their reports (Switzerland, Ivory Coast, Luxembourg, and Yugoslavia). There were noted problems with VAXs, not having a reporting program, and lack of disk space for data collection. Alain will request Egypt to develop the needed program. (see 3.5 above) Directive suggested for providing line statistics. Unanimously Approved later on. See Apendix 1

5. Modelling of EARN backbone A. Auroux

No response received from IBM on the topic. The need to study the load caused by servers is stressed. Sitki volunteers to analyze the optimum location of servers and lists. Niall states that the network changes too fast to model.

6. Status on traffic directives and recommendations A. Auroux

See appendix 2

Countries who have not yet implemented all directives are to comment.

Denmark: Not represented
France: Not possible today.
Ireland: Will be implemented in July/August when VM version 5 is installed.
Israel: Users are requested not to send large files, and to use BITSEND. This works well.
Italy: Users are requested not to send large files.
Ivory Coast: Absent
Portugal: Absent.

7. Report/Action on X.25 backbone and NJE/OSI/X.25 international backbone N. O'Reilly

Backbone will consist of NT switches, 64 KB/sec lines, and a central

management at Amsterdam. Implementations of gateways are available for VM, MVS and VMS systems (an 80% of all nodes.)

8. Mailers and Gateways

Olivier recommends Mailer 2.03B, and urges other VM sites to switch to this new mailer. Turgut to send recommendation to NADs on the topic. Hank states that UCLA Mailer will not work with source routing, (addresses with multiple @ and : symbols) Harri would like to see a default truncation at eight characters.

9. List of mailers — J. Wenmacker

A list of mailers is available from NETSERV. The filename is XMAILER NAMES.

10. Removing of users' accounts — H. Nussbacher

Nodes must notify their LISTSERV of the users which are being removed from their systems to avoid the flood of rejected mail.

11. Central generation of RSCS versions and other networking software — A. Auroux

Daniel suggests the verification of an update by a site, then getting a feedback from that site. After discussion, The central generation of RSCS code was declined. Alain recommended that nodes will backup their networking software before an upgrade, and restore this backup and notify NOG if problems surface. Ulrich also mentioned that he will (beginning July/August) generate the only netwide database (i.e. BITEARN NODES) for generating routing tables. Mainly NETSERV (but also some volunteering sites) will use this to generate the routing tables. The whole network will then make full use of the EARN developped tools.

12. Node Registration Form — A. Auroux

Berthold Pash will review the form, and circulate a proposal on the NOG list.

13. List of EARN data bases — A. Auroux

Alain asks all NCC to send to Stefano Trumpy any information on data data bases on EARN in their country.

14. LINKFAIL reporting — A. Auroux

Sitki states a need to standardize and shorten LINKFAIL reporting.

Manfred is to prepare a recommendation for rules on reporting.

15. LISTSERV---

The current status was recalled. (no support from Eric Thomas from June 1st, and no new distribution since few months). Eric Thomas proposed to EARN EXEC to sign a contract. This contract would allow EARN to modify and distribute LISTSERV (with a new name) to new nodes. As long as it is not signed, EARN is not allowed to modify and distribute new copies.

The primary mission of Turgut (see 1.) is to be the EARN LISTSERV contact point, to whom all EARN LISTSERV problems must be sent.

A LISTSERV programmers team <LISTTECH@TREARN> will be established. LISTGATE project has first priority on Turgut's agenda. BITNET is encouraged to help us by joining the list. Niall and Harri volunteered to be on the list.

After discussing the benefits and drawbacks of a LISTSERV gateway between EARN and BITNET, the NOG voted unanimusly the following motion which will be presented to the EXEC:

"The split of the LISTSERV backbone seems to be unavoidable.

Moreover, the present LISTSERV backbone has grown to a size where management difficulties have become apparent.

NOG proposes, in order to minimise the impact of the split, recognised as unavoidable, and to grasp the opportunity to improve manage ability of the backbone, to proceed to develop a LISTSERV gateway between the two backbones.

To do this successfully will require:

- Deferrment of the split until the gateway has been implemented.
- Documentation of and commitment to the gateway protocol on the part of the author of LISTSERV and of EARN.

NOG recommends that use of different versions of LISTSERV on either side of the gateway be avoided, but does not consider that significant disadvantage will result if different versions are eventually used."

16. Report/Action on the use of SNA at EARN M. Hebgen

The SNA group is not very active yet. Its first task is to write a

report on the use of SNA on EARN. This report will be circulated to the NOG.

17. Interactive messages on SNA lines

A problem with the excessive delay on interactive messaging was raised. Michael states that this is due to the pacing value, which determines how many packets can be sent at once without waiting for acknowledgement. The group will wait for the SNA group's recommendations in mid-July. and may recommend further action on this item after that.

18. BITTECH report and Status report on routing tables generation. — U. Giese

Ulrich informs us that the node updates should be sent to NETSERV, which in turn forwards it to him for changing BITEARN NODES. He also informed us of the delayed BITNET node update file, and the release of VERS8900 update file. He stressed the importance of showing our presence at BITNET meetings.

Ulrich also mentionned that he is now distributing the routing tables to the whole network, including BITNET.

On the topic of sites adding their own routing statements, Berthold warns us that this is against the regulations as it causes too many problems when following traffic accross lines.

An agreement for the new format of BITEARN NODES has been signed, and will be implemented later this year. (see point 1)

19. International DEC nodes — A. Auroux

This was addressed under item 3.5

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Appendix 1: proposed directive on collection of traffic data

EARN Statistics

Directive :

Each country is required to collect all international traffic data on all EARN international links on "from-to" the country and to send them monthly to the "traffic data" coordinator before the 10th (the

operation details are explained in the technical annex).

This directive should be implemented in order to have all traffic data starting in september 89.

Technical Annex :

The file which contains the traffic data must be send to Dominique Dumas (BRUCH@FRMOP11) and named CCyymm DATA (CC : Country Code, yy=year, mm=month). The file must be produce by :
- Jose-Maria's EXEC (CTRYSTAT)
- Udo Mayer's PASCAL program (CNTYACCT)
- by any other program producing the same output.

Results :

Stored at LISTSERV@DEARN
Named : STATyymm DATA

Appendix 2: Status of Directives and recommendations

Status to May 26th, 1989.

Directives

	No 1	No 2	No 3	No 4
AUSTRIA	D	D	D	D
BELGIUM	D	D	D	D
DENMARK	ND Mar 89	D	D	D
FINLAND	D	D	D	D
FRANCE(Montpel.)	ND(1)	D	ND(1)	D
GERMANY	D	D	D	D
GREECE	D	D	D	D
IRELAND	ND(*)	D	ND(*)	ND(*)

ISRAEL	D	D	D	D
ITALY	D	D	ND(2)	D
IVORY COAST	ND(3)	D	ND(3)	D
NETHERLANDS	D	D	D	D
NORWAY	D	D	ND	D
PORTUGAL	D	D	ND(**)	D
SPAIN	D	D	D	D
SWEDEN	D	D	D	D
SWITZERLAND	D	D	D	D
TURKEY	D	D	D	D
UNITED KINGDOM	D	D	D	D

D : Done
ND : Not Done
Otherwise : implementation date

Notes: (1) This is not possible with standard JES2
(2) users are requested not to send files exceeding the adopted limits.
(3) need technical help
(*) will be done as soon as possible
(**)done manually between 0800 and 1800

Recommendations

	1	2	3	4	5	6	7	8	9	10
AUSTRIA	NA	D	D	D	D	D	D		D	NA
BELGIUM	NA	NA	ND	D	D	ND#	ND#		D	NA

DENMARK	NA	D	D	ND	D	ND	Ja89		ND	NA
FINLAND	NA	D	D	D	ND*	ND*	D		D	NA
FRANCE(Montpel.)	NA	D	D	ND(1)	NA	ND(1)	NA		NA	D
GERMANY	NA	D	D	D	D	D	D		D	NA
GREECE(2)	NA	D	D	Nov88	ND	ND	Nov.		ND	NA
IRELAND	NA	D	ND*	ND*	ND	D	ND		ND	NA
ISRAEL	NA	D	D	ND(2)	D	ND	D		D	NA
ITALY	NA	D	D	ND	ND	ND	Nov1		D	NA
NETHERLANDS	NA	D	D	ND*	D	D	ND		ND	NA
NORWAY	NA	ND*	D		D		D		D	NA
PORTUGAL	NA	D	D	ND	D	ND	D		D	NA
SPAIN	NA	D	D	ND(3)	ND	ND*	D		D	NA

_____	____	____	____	_____	____	_____	____	____	____	____
SWEDEN	NA	D	D	ND	ND	ND	ND		ND	NA
_____	____	____	____	_____	____	_____	____	____	____	____
SWITZERLAND	NA	D	D	D	D	ND	D		D	NA
_____	____	____	____	_____	____	_____	____	____	____	____
UNITED KINGDOM(4)	NA	ND*	ND	ND	ND#	ND	ND		D	NA
_____	____	____	____	_____	____	_____	____	____	____	____

D: Done
ND : Not Done
NA : Not Applicable

Notes :

(1) Not possible with standard JES2, and no modifications to JES2 are planed.

(2) migration to VM/SP HPO release 5 and RSCS V2 in progress. Status will be
sent later.

(3) users are requested not to send large files

(4) U.K. plans to implement recommendations 2 and 4 and investigates recommendations 3, 6 or 7.

* will be done as soon as possible
# will not be done

Appendix 3: Action list

1. The draft design of the new GENROUTS will be circulated to the NOG for comments when available. Action: Peter Sylvester

2. All configuration or protocol changes on international lines must be reported to

the NOG. Action: NCCs

3. A report on changes in Nordic countries will be circulated. Action: Harri Salminen

4. Egypt will be requested to implement program to collect traffic data in the EARN agreed format with help from DEC and from Finland (Harri) Action: Alain Auroux

5. Analyze the optimum location of servers and lists. Action: Sitki Aytac

6. Send recommendation to NADs on Mailer Action: Turgut Kalfaoglu

7. Circulate a new draft regisstration form. Action: Berthold Pasch

8. Send information on data bases ans servers to Stefano Trumpy Action: NCCs

10. Prepare a recommendation for rules on LINKFAIL reporting. Action: Manfred Bogen

11. Proposed directive on traffic data will be forwarded to EXEC and BoD Action: Alain Auroux Michael Hebgen

12. Make sure that directives are implemented Action: Alain Auroux

13. Forward the motion on LISTSERV to the EXEC Action: Alain Auroux Michael Hebgen

14. Circulate the SNA group report to the NOG Action: Michael Hebgen

Appendix 4: The Nordic EARN saga

The Nordic EARN saga

The Nordic part of EARN has experienced significant evolution after a decision by the Nordic EARN directors and NORDUNET based on the observation that having separate lines for EARN traffic was waste of

resources. The goal is that EARN/NJE will be one application among the others in the NORDUnet multiprotocol network which dynamically shares the bandwidth. Instead of splitting the bandwidth to many small fixed channels, we wish to have a single common bridged nordic ethernet with dynamic allocation to different uses.

Since both the EARN's NJE/OSI and BITNET's NJE/TCP projects that would allow us to reach this goal were delayed, we decided to use temporary solutions if needed and cancel the old lines after we had at least some new solutions working as a replacement. First the SEARN-NORUNIT line was replaced by splitting the 64 Kbit/s NORDUnet line with a Racal Milco OMNIMUX to 48 Kbit/s and 9.6 Kbit/s channels; no serious problems were encountered. The MUXes to Finland and Denmark were delayed much more and had hardware problems, but now the SEARN-DKEARN line has been set up in a manner similar to the line to Norway. Finland is a bit different case, since most of her EARN nodes (18) are connected via a dedicated VMS uVAX with JNET except that the nodes FINHUTC, FINHUT, FINHUTA and FINALKO have local BSC lines. Sweden has also a dedicated JNET hub node SEQZ51 connected to SEARN. In addition the NORDUnet line ends to different location in the Otaniemi than the old EARN line so we need leased lines for BSC connections between them.

Since we knew that connecting JNETs together would work well as a temporary solution, we went ahead and canceled the old EARN line SEARN-FINHUTC. We then decided to move all Finnish EARN traffic temporarily to the new SEQZ51-FIPORT link; the reason for not recording this change to the EARN database was that the change was temporary and affected few nodes in Finland and Sweden only. The new NJE/DECNET link over 64 Kbit/s ethernet seemed to work reliably enough and to be able to handle all the Finnish EARN traffic. From the beginning we saved the log files and started to convert them to RSCSaccounting records to be able to continue to generate the countrystatistics. Although the link has heavy TCP/IP and DECNET traffic besides EARN, this does not seem to cause much trouble to the EARN traffic, since the line is 64 Kbit/s and the EARN traffic is only a few Kbit/s on average. Normally the NJE transfer can get a quite good share of the bandwidth, since they use large, smoothly flowing packets which might affect the interactive TELNET traffic but not vice versa. The net transfer speeds of files over the link have been normally in the 10-40 Kbit/s range, thus well over the old 8 Kbit/s BSC one. We're now quite confident that the NJE will work very well as an application among other protocols which the users want to use and that there is no need to have separate EARN lines anymore even for our relatively large international EARN traffic.

The MUX for Finland was much delayed and delivered without proper special cables and with wrong identification codes, so getting even to

test it took much longer than anticipated. Finally we managed to manufacture locally the right cables and tried to test the MUX during the SEARN move, but it had severe clock synchronization problems, which we have not been able to solve yet. So we continue to use the SEQZ51 - FIPORT link and hope the G-BOX or BITNET-2 projects will soon provide a better alternative.

The QZ EARN service problems are a different story, and they have caused a lot of annoyance to all Nordic EARN users, independently of how they are connected to QZ. QZ has been bought by a company called DAFA, which has moved most of the personnel and machinery out of QZ. The Swedish EARN service contract has been moved to KTH by SUNET, and a new 9370 machine has been installed to replace the old IBM in QZ. However, before the move was ready there were some unexplained errors in the very old and locally modified RSCS at QZ; this caused problems with all lines for several weeks until they managed to get and install a new copy of RSCS that solved the problem. When the SEARN move was finally done after the NOG meeting with the help of Eric Thomas, QZ did not have any knowledgeable personnel left for the SEARN node. The move has finally been done and a new EARN CC Bernhard Stockmann <BOSS@SEARN> has started to take care of the new Swedish EARN very well. The SEQZ51 which is a dedicated but sometimes heavily loaded JNET VAX will also be replaced by another VAX at KTH, after which the QZ will not be a major Swedish EARN hub.

The G-BOX project was also delayed due to local installation problems, but now all the G-BOXes are fully installed and configured with OSI/NJE by FUNET. Only problems in X.25 switches have delayed some of the tests, but in general the G-BOXes and OSI/NJE seem to perform very well. Over a lightly loaded 48 Kbit/s line OSI/NJE gave nearly 30 Kbit/s net throughput in full-duplex, which is even slightly better than with plain DECNET, although FTP is even better. Since the total Nordic EARN traffic has never had problems fitting into even the old max 8 Kbit/s half-duplex lines, except after long downtime of course, there should be no problem to carry the traffic using the NJE/OSI. As a fallback alternative we can run NJE/DECNET/ethernet when there are problems with the NJE/OSI/X.25/IEEE802.3 stack. G-BOXes are especially well suited to replace the SEQZ51-FIPORT very soon, since we have no working MUX solution like Denmark and Norway. In longer term, the Nordic EARN will not use any temporary MUXes or DECNET links but OSI/NJE or maybe also the BITNET-2 NJE/TCP that fits easier to the bNordic VM/SP based EARN nodes than OSI/NJE/X.25.

In any case we will continue to provide good NJE service to our users and connect to the rest of the world with BSC, OSI/X.25, TCP/IP or whatever it is using at any time, as long as there is user demand for the good old NJE.

Harri Salminen
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