

Subject: CCIRN MINUTES

From: kalin@rare.nl

Date: 29-9-1992 15:51

To: coa-list@rare.nl

Dear CoA members,

As requested I am sending you Tokyo CCIRN minutes.

Regards

Tomaz

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MINUTES OF THE CCIRN MEETING, 10 JUNE 92, TOKYO

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Attendee list: attached

Agenda: attached

1. Welcome by Shoichiro Asano and Kees Neggers

2. Review of Agenda

3. Discussion of next meeting:

An extensive discussion on the frequency of CCIRN meetings, of the need that they are coupled with important events (INET, JENC, NORDUNET Conference, e.t.c) and/or with IEPG, started following a proposal by Kees Neggers to held the next meeting in Brussels just before the Esprit week. The matter was deferred to a later time.

4. Report Asia Pacific Region

Shoichiro Asano describes the Japanese network (see slides), connected to BITNET and FIX west. latter at 192 kbps. also connected to private networks JIX: (Japanese Internet exchange) connection point to other region's networks.

Discussion on Asia Pacific members:

Kilnam Chon states that there were preliminary meetings of APCCIRN; August 1991 in Hawaii and November 1991 in Santa Fe, but have not had the first official APCCIRN meeting yet. The terms of reference including membership definition is not ready yet. S. Asano and R. Erskine are the acting co-chairs as elected last August to organize the first official APCCIRN meeting. The current status in Asia-Pacific region is that there are 10-12 countries with network connection and two international networks; PACCOM and CAREN. Out of these countries and networks, only four countries and PACCOM participate the CCIRN activities. Only two countries participate the CCIRN meeting this time. We need to have the first official APCCIRN meeting as soon as possible and coordinate the networking actively.

Torben Nielsen reported on adding two more countries to PACCOM. Malaysia and Thailand. probably happen by end of year. Between CAREN and PACCOM, they have about two thirds of AP countries. Coordination happening in operational networking, by meeting in workshops to deal with issues like international funding model since half circuit model is not working. PACCOM is in some sense doing things that APCCIRN should be doing. It will proceed to do so until APCCIRN gets up to speed doing these things.

There will be an APEPG meeting in August in conjunction with PACCOM meeting dealing with funding model.

5. Report from NACCIRN

Paul Mockapetris states that last NACCIRN meeting was cancelled, so there is not much to report. Much of US discussions focused on directions and applicability of technology. Models developed of applying commercial/NAT model. There is focus on size rather than speed as major issue now, as well as acceptable use policy issues. DARPA trying to transfer policy based routing work into field as next step after BGP.

Steve Goldstein reported on NSFnet backbone plans and other North American developments:

CA*Net has new board of directors. Increased speed of two NSFnet connections to T1.

Mexico recognizing that it has to become master of own fate, coordinate Mexican networking rather than just establish multiple connections to US networks. hence, more coordination needed in NACCIRN

NSFnet: slide titled nsf's view of NSFnet. It is part of a draft solicitation for reengineering of NSFnet. waiting for internal clearance to publish (imminent). Plan is to issue two solicitations for NSFnet backbone. Solicitation for NSFnet network services already issued and closed. NSFnet backbone plan is for series of network access points (local or metro area networks) to which networks meeting certain criteria can connect free from AUP restrictions. a key feature of a NAP will be a routing server. Criteria is to have T1 speed at minimum, provide teleconferencing, and follow advice of routing server. Attached networks will pay fee to backbone operation.

Emphasized that this is solicitation, it will only become a project if NSF receives a proposal acceptable technically and financially.

Follows discussion of role of NAPs related to regional and backbone service:

Shoichiro Asano asked if the European countries have projects similar to NSFnet backbone/NAPs?

Peter Kirstein replies that there are some discussions, but nothing concrete. There is one exception: Norway/Sweden project.

Shoichiro Asano stated that an R&D project to establish similar network in Japan, is about to start next year. Main issues: how to use high performance networks? how to do high speed protocols? Applications of high speed networks including distributed processing. MITI is concerned about promoting project. cooperation with Europe via JIX. Will be discussed at INET92.

6. Report from EuroCCIRN

Kees Negggers reported on the EuroCCIRN meeting several weeks ago, which still sees need for coordinating body like CCIRN.

Within Europe there were several developments:

Multiprotocol character of networking no longer issue - recognized by users, providers, and political bodies. Nothing prevents Europeans from participating in global networking with only one goal - to make networking better. Also understood that there is similar reasoning in US and Internet communities. Personally believes CCIRN has contributed to this progress - would have taken longer without CCIRN.

As result of growing consensus, RARE evolved to organization recognized as responsible for research networking. Welcomed Tomaz Kalin as Secretary General of RARE and full member of European CCIRN delegation.

(Steve Goldstein: recognized new president of RARE (Kees Negggers) and extended congratulations)

RARE has restructured technical activities completely. RARE Technical committee (chaired by Kalin) has been set up. Sven Tafvelin is a member of RTC. Its role is management of RARE technical activities using the mechanism of restructured working groups. The program is now open to anyone interested in research networking. Old seven working groups dissolved; six new working groups established. Tied to service rather than a protocol.

Action: Kalin to provide list of groups, chairpersons, and brief description of charter. (Annex C.)

Changes in CEC funding of WGs. Used to pay for travel expenses without asking for specific deliverables in advance. Now CEC sponsorship more oriented towards results - RTC and WGs to guarantee the value and therefore funding. Hopefully, net effect is that for CEC funding there will be no reduction of funding but more clearly defined deliverables.

Another activity: EBONE is now operational. All links installed except for Montpellier/London. Some routers running BGP. Not using full BGP capabilities since policy portions not that stable. Experiments will hopefully lead to improvements to BGP.

COSINE implementation phase entering final term. Originally scheduled to end January 1993. Most likely there will be a short extension to finish some work items. One thing still on agenda is 2 Mbit/s multiprotocol backbone. 2 Mbit backbone, if successful, will be primary production service, replacing EBONE if successful as IP networking backbone.

Blokzijl states that IP networking in Europe growth is still exponential, it doubled in last 12 months.

Kees Negggers reports on the establishment of RIPE NCC, providing service to European IP community. Intended to provide naming/addressing service to all IP in Europe. Karrenberg is RIPE NCC manager and has two excellent helpers.

(Steve Goldstein complements on the RIPE NCC work which has been outstanding and exceptional - provides example for anywhere in world including US.

RARE and EARN agreed on tight cooperation in interest of end users in Europe and to show founders that there is no double funding of the same activities. All technical activities are part of RTC activities. EARN will

focus on educational activity, service aspects and training.

Operational Unit is being established. Task force was set up last year to form recommendation. It has reported in December. Detailed business plan presented to set up limited liability company to provide service to "shareholders" who are national networks in Europe. Heads of agreement signed as non-binding letter of intent. Next step is the signature of detailed binding agreement. Initial business plan focused on multiprotocol network layer service provision.

Steve Goldstein comments on substantial progress made in Central/Eastern Europe to extend EBONE concept to eastern/central europe. He visited Poland in April, saw networking operation and is impressed with the planning, engineering and well organised operations.

Kees Neggars reports on the several contacts during JENC92 with Eastern/Central europeans. RARE has offered to help, and they have accepted RARE as coordinator for their planning. There is a lot of help, but it is not that well coordinated yet.

Rob Blokzijl makes CIS report: There is an emerging IP backbone inside Russia and other republics. Baltic republics have had connectivity for some time, but not operational since top level domains was not assigned, even though ISO country codes assigned. Good relations established with ISO editor to get a proof of country codes. 64 kbps and higher speed links are operational already. Amount of traffic in/out to Russia is increasing dramatically it consists mainly of UUCP traffic over dial up. EARN has opened an analog link from Copenhagen to Moscow where there are 3 EARN nodes 2-3 months ago. Starting discussions to coordinate all these links.

Steve Goldstein reports that EARN is also establishing IP service (FRENET) inside Russia. NSFnet can now accept routing from all three Baltic states. The U.S. federally sponsored/operated networks are working with other agencies of the U.S. Government to resolve policies about routing IP traffic from networks in the former East Bloc. So far, NSFNET has agreed to route traffic from CS, EE, HU, LT, LV, and PL. Hopes to be able to route Russian traffic before long.

Kees Neggars proceeds with his European report: EARN still does and plans to continue to provide NJE services. Plans for moving the responsibility into Operational Unit, probably in 1994. If Operational Unit does not happen, then EARN will consider establishing itself as service provider. EARN is no longer responsible for transmission services to support NJE. Dropped transatlantic line when joined EBONE. EARN has no provision for line costs on its budget any more and there is no plan to revisit that decision. EARN is more or less carried over IP in Europe. Connectivity between EARN nodes has never been as good.

Jim Conklin: The European situation is parallel to that in US

7. South/Central American

Steve Goldstein: recent meeting hosted by Takahashi, to encourage coordination amongst Latin American countries for Internet connection and routing. One result of meeting, achieved at last hour, is an agreement to form working group of five people. There have been 3-4 meetings of working group since. He believes that results will be presented by Hahn of OAS at INET. Believes that there are close to having regional plan. NSF planning to put router at PanAm SAT teleport at Homestead, and then connect it to FIX east. First likely connection to be Costa Rica. Believe many countries have or

are about to have IP links. Many others have developed UUCP links, supported by many organizations including OAS, EC, and UN Development program, and UNESCO.

In terms of participating in CCIRN, Steve Goldstein gave paper on CCIRN at meeting above, and extended invitation to attend as observer. Feels they need to establish internal coordination before they can participate effectively in CCIRN.

Peter Kirstein: is it cheaper/better to coordinate links rather than have individual links given tariff structure?

Steve Goldstein: not that different than European situation.

Jim Conklin: several countries connected by BITNET. tried to encourage coordination. didn't prove to be cost effective, although still trying.

(Steve Goldstein: anecdote: President of Banco del Pacifico, Ecuador, so impressed by network usage that he donated 19.2 kbps of his link to use by Internet.)

Peter Kirstein: to what extent is BITNET following EARN objectives as outlined above?

Jim Conklin: have been wrestling with that issue for 18 months. At last board meeting, it took several actions: 1. join ISODE consortium, to bring BITNET into X.500 activity, will get software and acceptable use policy for white pages.

Peter Kirstein: are security enhancements required?

Jim Conklin: not at this point?

Jim Conklin: 2. discussed possibility of working together with providing of PC networking products to reach out in that direction. 3. Providing list management within IP framework. Have approval from Board to proceed in all areas.

Re: non-US. others are pursuing NJE items. CAREN is meeting Saturday after INET.

Steve Goldstein: CAREN linked Univ of Tokyo to Princeton.

8. ICB Report

Peter Kirstein: Less and less of separate ICB network. Countries using common infrastructure. Addressed relation of ICB to IETF and ISOC. Watching what is happening in IETF.

Paul Mockapetris: distinction between networking in support of research and research into networking. To what degree do these have to be separated or can they work together allowing for international infrastructure. Where research can take place is an issue that must be addressed.

Peter Kirstein: issue of IP address assignment keeps coming up.

9. IAB Report

Aligned with the Tri-lateral commission. Aggressively looking for non-US members; imminent announcement. Moving ahead with incorporation under ISOC. Operational mode will likely remain unchanged, but selection of members will change. Currently, major emphasis on routing and addressing problem. Trying to address routing and addressing problems through the ROAD group.

Addresses are now a limited resource. Hope to make changes to remove that limitation

Transit traffic.

Steve Goldstein states that conclusions from Santa Fe CCIRN meeting are still valid: Traffic which has neither origin nor the destination in a network is defined as transit traffic (relative to that network). Network administrators are encouraged to enter into agreements for supporting transit traffic, where appropriate, to serve the interest of widespread connectivity.

It was agreed that transit traffic problems have been handled in at least in an interim way for this year and next year. In Europe, the EBONE has stable agreements for transit traffic for this year and a plan for next year. The NS net has statistics of transit traffic, but chooses to wait until its new backbone structure is in place (with Network Access Points (NAPs) before looking more carefully at transit traffic. Therefore, Barry Leiner suggested that no further work on transit traffic needs to be taken now, but that CCIRN should in the future provide a model for bilateral agreements

The CCIRN agrees not to discuss the issue of AUP than to acknowledge the previous unwritten agreement among member networks to handle traffic according to their requirements. Jim Conklin noted that several acceptable use statements are available from the BITNIC LISTSERV whose file names are named with filetype NET_USE. For example, send mail to LISTSERV@BITNIC.EDUCOM.EDU with the message text:

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SEND CREN NET_USE
SEND CAREN NET_USE
SEND SCARNET NET_USE
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10. Operational NICS.

There is now RIPE NCC operating in Europe and Kees Neggers would like a clear indication of what issues the RIPE NCC should progress to have maximum responsibility in Europe and requests the CCIRN's views. Barry Leiner noted that a European NIC was totally compatible with RFC 1174. In the long term, this NIC should hand out large chunks of address space. In the near term, the IEPG recommends handing out small chunks because of the address space depletion problem. Rob Blokzijl noted that speedier dispatch of address chunks will help avoid hoarding of address space. There are also new political entities in Europe that may believe address space assignment responsibility is an appropriate skirmishing point.

Steve Goldstein discussed assignment of top level domains. Some of the top level assignments that have been made in the past proved to have been made somewhat hastily. Among the consequences were inaccessible name servers and contention over authority. Jon Postel has worked on the top level domain procedures, but the procedures still needs to be published as an RFC. Barry Leiner said that the IAB has looked at the top level domain name assignment issue after the CCIRN declined (properly, he thinks) to handle this issue. The IAB decided that nothing should be done because this is a national issue. He suggests that while CCIRN members may have informal opinions about the correct assignment for domain name assignments within a country, it is hard for them to have a formal opinion.

Rob Blokzijl noted that we have been making assignments for the past twenty years without treaties. He thinks we have an education role for those making assignments.

Peter Kirstein notes that problems occur when someone claims to be ready to handle the top level domain name responsibilities but interprets them differently from the rest of the Internet community. In that case, there is no mechanism to reclaiming the authority and reassigning it.

Barry Leiner says there are two statements: (1) Disputes within a country are expected to be resolved within that country. (2) If the parties cannot resolve it themselves, the signatory to the ITU agreement from respective country is asked to resolve the dispute. Aside from this, Leiner thinks the CCIRN and IAB are powerless since these are national issues.

Peter Kirstein says part of the problem is that in the European arena, There is varying realization that commercial organizations need good service from academically-based name assigners.

Barry Leiner noted that if there are internal country policies that cause problems, there are two trees under which they can register--the country code and the type of organization domains (e.g. .com, .edu, etc).

Kees Neggers tried to close the issue by suggesting that the IAB should provide written guidelines to top level domain name assigners. Steve Goldstein said that he believes the IANA (Jon Postel) has the action to provide an RFC for this purpose. Paul Mockapetris said the CCIRN should tell the IAB what such a statement should cover to avoid later criticism for lack of relevance.

NIC Discussion:

Daniel Karrenberg and Jun Murai joined the CCIRN. Kees summarized for them two problems: (a) address number assignment and (b) naming an authority within a country.

Barry Leiner offered the IAB's services to (1) encourage Jon Postel to provide a document on the procedures for top level domain name assignment, and (2) put together a document outlining the expectation for responsibilities and behaviour of a top level domain name assignment authority. An example of the second point would be to include a statement that such an authority should be of equal utility to commercial users of the Internet as well as academic users of the Internet. Barry then asked the CCIRN input on the second document as a condition for producing it. Daniel Karrenberg suggested that the document Jon is preparing for the first point will automatically include the key second point that the highest level assignment should not act in a discriminatory fashion in its area of responsibility. Barry Leiner said the second document is needed so it can come from the IAB and not just the IANA.

The CCIRN requests these two documents from the IAB. The document should be produced with as much input and feedback (Peter Kirstein's point) as possible. Kees Neggers said that the Europeans are prepared to give as much input as needed, and Dr. Shoichiro Asano agreed that Japan will actively participate as well. Barry Leiner requested input be provided in electronic writing in the next several weeks. Kees suggested using the CCIRN mailing list, but not waiting for any further CCIRN action before expecting the IAB to progress the issue.

Steve Goldstein noted that Japan and Europe have both established NICs that can become delegate registries, and that the United States will have two registries, one of which will be the root of the Internet tree. Kees asked that the root wherever located should work toward taking a global view. To him, this is a very basic issue. The growth of IP in Europe and elsewhere depends on moving the root authority to a non-United States-centric institution and into an internationally-oriented body.

A discussion then ensued about who has the root policy authority. At present, one interpretation is that the IAB and IANA are believed to have root authority which is delegated to the DDN NIC. Another interpretation is that the U.S. Department of Defense (DoD) has this authority and administers it through the DDN NIC. Paul Mockapetris, speaking for the DoD, said DoD has no interest in "owning" the top level authority, but that the rights and perquisites of being root should be decreased so there is no reason to argue over who owns it. One way to do this is to say an ISO country code is a valid top level name, and that the country owning that code must resolve who manages it.

Kees Neggers argued that although decreasing the choices made by the root is a wonderful working solution, it still makes a big difference to politicians and is limiting the spread of IP in Europe.

The following statement was proposed by Kees Neggers and agreed to by the CCIRN: We learned of the plans of the incorporation of the IAB in the Internet society, and the CCIRN welcomes that move as a move toward the globalisation of the Internet.

Jun Murai said that Japan is now allocating addresses in Japan. WIDE, TISN (Todai International Science Network), etc. have established the Japan NIC (JNIC) for domestic number assignment purposes and now assigns .jp namespace. It would be possible to expand the role to cover Asian Pacific, if desired. The JNIC could also help gathering together unused addresses. Steve Goldstein noted (unsubstantiated) reports of problems in Korean commercial sector IP address assignment that the JNIC could help with. (No resolution reached.)

Daniel Karrenberg presented the RIPE NCC. He is the manager; there are 3 people; it was started April/May; it is directed by RIPE; the formal framework is RARE. They keep a database of all European IP networks and DNS domains which is much more recent and relevant than the DDN NIC information. It is used for routing policy in the EBONE; those not registered with the RIPE NCC are recommended not to be routed in Europe. They have begun working with both DDN NIC and Merit to achieve database accuracy. They are working with the IANA to know when new top level domains get established in Europe and help resolve local disputes. It is a delegated registry. They are also providing information services by keeping shadow directories of relevant documents and programs like WWW, WAIS, Gopher, etc.

Kees Neggers abstracted two issues: (1) better defining the rights and responsibilities of a delegated registry like the RIPE NCC to minimize interaction with the root and maximize autonomy, and (2) better defining how the NICs work with each other. These issues seem to fit under the IETF operational requirements area. The CCIRN recommends that they address them.

We need to address problems where information differs between the current NIC and a delegated registry. It was noted that local information is often more correct than central information. The CCIRN notes there is such a problem and that we encourage the NICs to cooperate as well as possible to solve it.

Daniel's parking advice was that large number blocks must be assigned to

delegate registries to allow them to do their jobs well.

Privacy Enhanced Mail

Peter Kirstein led a discussion. Based on the standards of two years ago, there is a German implementation. The more recent standards have restrictions on its deployment. The RARE project, in anger, intends to deploy the old version for CERT communications (who needs PEM more?). Peter wondered if the latest implementation could be made available for at least CERT communications. Then we at least have communications between North American and European CERTs.

Steve Goldstein asked Peter Kirstein to send him an Email note after INET identifying the German product so that its existence can be made known to the export regulators and proposed as a reason for allowing the use of the new PEM for the CERT purpose.

Relationship of the CCIRN to commercialization

Minutes of our previous meetings have reaffirmed the CCIRN's focus on research and education networking. Glenn Ricart noted that the FARNET constituency he represents has increasing numbers of commercial members and that it would be natural to increase the scope of an existing body (like CCIRN) to include them. Barry Leiner said in his personal opinion the Internet Society ought to charter an international body to coordinate the operation of networks regardless of their orientation. CCIRN still has a role to help coordinate research uses of the Internet globally.

Discussion of June 12, 1992

CCIRN met in room 002.

Peter Kirstein suggested that meetings of the IEPG and CCIRN should not overlap so much so that the chair(s) of the IEPG can be present and participate in CCIRN discussions; this is particularly appropriate for discussions of the CCIRN charge to the IEPG.

Barry Leiner said that having the IEPG meet with IETF was entirely appropriate. The IAB and IETF are oriented to developing the technology base of the Internet, not its implementation which is the role of the IEPG. He said that the IAB and IETF welcome more international participation.

Steve Goldstein noted that a travel schedule for IEPG chair(s) of 3 IEPG meetings plus two CCIRN meetings would be rather heavy. Barry Leiner said this was not so bad because these meetings hardly ever stand alone-- they are co-held with other meetings that people attend.

Kees Neggers suggested that all three co-chairs of IEPG needn't be present at every meeting. Peter Kirstein said attendance depends upon the discussion the CCIRN will be having.

Kees Neggers asked whether the CCIRN should continue. Barry Leiner defined the role of the CCIRN as facilitating and coordinating the international research network to benefit the research community. Specific activities depend upon the time and place. Right now, he said, coordination of NIC activities around the world might be needed, and/or possibly coordination of X.500 activities.

Rob Blokzijl noted that the original CCIRN mission, coordination of pipes,

still needs to be done; one example is that NASA intends to put 3 T1 links across the Atlantic that have not been coordinated and no one from NASA is present.

Sven Tafvelin concluded that there are many reasons for the CCIRN to meet, but that meetings could be more productive. Barry Leiner said this was difficult when the group only meets every 6 months. He suggested more Email traffic between meetings would be helpful.

Glenn Ricart said that there are several difficult issues facing the global Internet such as those explained in the joint meeting with the IEPG yesterday afternoon. In general, the IEPG members don't have the ability to commit their organizations to take appropriate actions, nor are all such members represented on the IEPG. The role of the CCIRN is to trigger actions among our memberships based on coordination and requirements.

Kilnam Chon and co-chair Shoichiro Asano noted that the mechanism to hold APCCIRN meetings before the CCIRN meeting to develop regional positions is difficult because of the large travel distances in the Asian-Pacific region. For example, Australia and New Zealand are not present today.

Kees Neggers concluded by saying that there are important reasons for the CCIRN, that additional regions (South America, etc.) need to join, that the IEPG is an important committee in relation to the CCIRN, that more work could be done between meetings, and that careful agenda preparation is the responsibility of all members. The IEPG chair(s) should be present at CCIRN meetings.

Endorsement of GIX

The CCIRN thanks the IEPG for the progress made in the area of global interconnection. We endorse their recommendation that the GIX proposal be progressed through the IETF. It is the CCIRN's responsibility to work to commit the resources

(Note: The GIX, or Global Internet eXchange, is a local ring ("point") similar to the FIXes and the CIX, through which networks are proposed to interconnect, rather than randomly as at present, to reduce the routing complexity otherwise caused by interconnection of an increasingly large number of links and providers. Each GIX would include a large router engine, in order to reduce the routing information needed to be handled by other routers to that of their own autonomous network and the GIX connectivity to other networks.)

Steve Goldstein said that an administrative structure is necessary for the proper functioning of the GIX (similar in principle to Merit's consultation and coordination function in registering non-U.S. networks for routing in the NSFNET). Kees Neggers thinks it is critical that the GIX has an administrative structure that is global in nature.

Kees Neggers and Barry Leiner cooperated to make several statements that appeared to have tacit approval with regard to the GIX. The GIX proposal should be checked with appropriate other parties (e.g. IETF). If the proposal is sound, the CCIRN should take responsibility for finding the appropriate bodies who could invest in such a GIX. We have noted the risks inherent in the solution and recognize its temporary nature. Formal CCIRN approval was not given pending a written version of the motion to be prepared and distributed via electronic mail.

Barry Leiner moved that the CCIRN endorse the response to the IEPG in principle as outlined by Kees Neggers, and that we authorize Kees to prepare a formal response to the IEPG, to be prepared no later than July 1

and commented upon by Email. This motion was discussed but never voted upon.

The CCIRN encourages the IEPG to proceed with their proposal for global interconnection and progress with relevant bodies including IETF.

Meeting Scheduling

Kees Negggers suggested that we endorse the joint meeting of IEPG with IETF but ask one chair of the IEPG to attend CCIRN meetings.

Kees Negggers proposed that in future, one CCIRN meeting per year should be attached to the INET conference, and the other meeting should be attached to a regional event of interest to at least some of the CCIRN members to avoid extra travel. Peter Kirstein said that tying one meeting to INET makes it unattractive to meet at the Joint European Networking Conference (always held mid-May) which is too close to INET in time. Rob Blokzijl urged flexibility. Kees Negggers noted that if we kept one meeting at the INET, the logical meeting between them would be around NORDUNET in February. It was proposed to meet with the Commission in Brussels in February 1993. The role and interest of the Commission with regard to CCIRN was then discussed at length. There was concern that if we go to Brussels, we should ask for EC participation in the meeting. Most of the European members of the CCIRN noted that the EC is changing and embarking on data networking. A meeting with them could have positive consequences. It was suggested that the chair take an action to re-involve the EC in CCIRN matters.

Jim Conklin moved that the Euro-CCIRN decide on the next CCIRN meeting locale. This motion was not voted upon. (however, it seems, that it was accepted by common consensus.)

The NORDUNET meeting is 15-17 February, 1993 in Helsinki. The CCIRN will be 18-19 probably in Brussels, but the EuroCCIRN will confirm.

After February in Europe, the next CCIRN meeting will be in the San Francisco area. Peter Kirstein moved that the NACCIRN select the precise meeting site. It was suggested that the meeting to be held after INET 93 on the 23rd and 24th of August, 1993. It was suggested that the CCIRN could also meet with PACCOM which will also be during that time. Chair Kees Negggers asked for and received agreement on these issues.

Additional Issues

Peter Kirstein suggested the CCIRN review the report of the NSF/DARPA/Esprit workshop held in Brussels. Peter Kirstein agreed to take an action to circulate his long personal report of the workshop to the CCIRN members. Each CCIRN member should prepare comments on this document and send them to the CCIRN mailer. Peter volunteered to orchestrate the discussion reviewing the workshop document

INET 92

The P6 session will include material on the CCIRN and IEPG.

CCIRN Mailers

The chair will take an action to check the CCIRN electronic mailing list and update it if necessary.

Agenda Items for Next Time

Barry Leiner suggested at the next meeting to discuss how CCIRN objectives can be achieved through the Internet Society. He volunteered to orchestrate an email discussion on the issue before the next meeting.

DARPA/NSF/Esprit workshop recommendations should be compared to CCIRN actions and see if any items still need further follow-up.

Sven Tafvelin was asked and agreed to moderate a discussion on the GIX on the CCIRN mailer.

Barry Leiner requested a report on global directory services from Eric Huizer--that is, where is the results from Paradise and FOX and work done in Australia and Japan. Peter Kirstein volunteered to orchestrate the Email discussion.

Thanks to Lynn Behnke

The minutes that Lynn Behnke produced of the previous meeting were approved with thanks to her for their creation.

Thanks to Bill Bostwick

The CCIRN thanked Bill Bostwick for his productive years of service to the CCIRN; with hope that he will soon recover and be able to participate in the CCIRN work again.

Closing

The meeting was closed at 13:05 on Friday June 12 by co-chairs Neggers and Shoichiro Asano.

Annex A.

Attendance list:

Shoichiro ASANO	NACSIS
Rob Blokzijl	RIPE
Jim CONKLIN	BITNET
Kilnam CHON	ANC/KAIST
Masayoshii GOHARA	NACSIS (Secretary)
Steve GOLDSTEIN	NSF
Yukino FURUTA	NACSIS (Secretary)
Yusheng JI	NACSIS (Observer)
Tatsuo KASIDA	NACSIS (Secretary)
Tomaz KALIN	RARE
Yukio KARITA	HEPNET(Observer)
Peter KIRSTEIN	ICB
David LASSNER	University of Hawaii
Barry LEINER	IAB (USRA)
Paul MOCKAPETRIS	DARPA
Kees NEGGERS	RARE/SURFnet
Torben NIELSEN	PACCOM
Glenn RICART	FARNET

Sven TAFVELIN

NURDUnet

Annex B:

Agenda:

1. Report from NACCIRN and ECCIRN (Discussions may include NREN, South and Central America, as well as CIS and Eastern Europe)
2. Review of Intercontinental Link Coordination
3. Review of interim transit traffic policy
4. Review of agreement for acceptable use
5. Discussion on NIC's
 - responsibility of global address space for Internet
 - mandate for regional NIC's
 - improvement of information exchange between NIC's
6. Discussion on expansion of the commercial/international Internet and its relation to CCIRN
7. Discussion with IEPG members (Thursday morning)
 - future alignment of the IAB (and the IETF) with the Internet Society structure
 - mechanisms for the management of work items within the CCIRN and the IEPG
 - application of CCIRN policies where they impinge on consideration of engineering issues
 - engineering issues within the Internet environments
8. Discussion on the role of CCIRN in supporting the development and use of international standards and future technologies
 - PEM (privacy Enhanced Mail)
9. Discussion of the INET 92 issues
10. Discussion on other agenda items
 - proposal for next CCIRN/IEPG meeting

Annex C.

1. RARE Technical committee and Working Groups:

The RARE Technical Committee (RTC) is responsible to the RARE Council of Administration (CoA) for the implementation of RARE's technical work program. Funding of the technical work program is voted by the CoA and administered by the RTC. The RTC carries out the work program by creating Working Groups and Task Forces.

Working Groups are long-lived groups associated with particular areas of networking interest. Working groups provide a forum for communication amongst experts and information for non-experts and can act as a channel for highlighting areas which require more intense study i.e. to act as idea generators for the Task Forces. Membership of Working Groups is open to anyone who wishes to subscribe to their mailing lists.

Task Forces are created by the RTC upon request from the relevant Working group, to address specific tasks, have a small membership and clear deliverables. Once they have achieved their specified task, they are dissolved.

Thus, the Working groups are the creative and consensus-forming bodies and the main source of technical activities, with Task Forces, the activity-focused bodies, being the support for the Working Groups.

The main issues that the RTC believed should be addressed in the work program are: the current networking environment in Europe can be described as a heterogeneous network covering a small fraction of the potential academic users. Possible evolutionary goals were: homogeneity, multi-media services, a broadened user-community and a greater involvement of researchers within the commercial world. In addition, security was added to the list of important topics.

Taking into account all said, and after some further discussion, the main constituents of the technical programme is defined as:

- Connectivity - the necessary transport and backbone services needed to achieve homogeneous communication
- Document Services - the provision of services to facilitate the location and retrieval of documents by means of the network
- Multi-media - the technology associated with the distribution of information which is not simply textual
- Security - all aspects of network security

2. WORKING GROUPS

A number of working groups are proposed, each falling within one of the defined areas of interest. The priority tasks assigned to each Working Group can be found in the sections of this document indicated in the table below:

Connectivity

- Network Applications Support
- Lower Layers Technology
- Mail and Messaging
- Network Operations

Document Retrieval

- Info. Services & User Support

Multimedia

- Interactive MultiMedia and Multimedia Document Transfer

Security

- Security technology

3.1 CONNECTIVITY

3.1.1 NETWORK APPLICATION SUPPORT

Convenor: Jean-Andre Pays

This group is concerned with the technology associated with the ubiquitous network services which must be available to support distributed applications. Examples of such technology include:

- Naming and Addressing Requirements
- Directory services
- Network time services

3.1.2 LOWER-LAYERS TECHNOLOGY

Convenor: Piet Bovenga

This group is associated with the basic technology of providing end-to-end connectivity between network users (Layers 1-4 of the OSI reference model). Areas of interest include:

- Transmission technology
- Routing protocols
- Capacity modelling

3.1.3 MAIL AND MESSAGING

Convenor: Harald T. Alvestrand

This group is concerned with the technology relating to traditional and enhanced electronic mail services (e.g. RFC 822-based mail, X.400, EDI). Areas of interest include:

- Service requirements
- Distribution strategies (routing, duplication for multiple recipients)
- Gateways between different technologies
- User Interfaces
- Protocols
- User education and training
- Promoting the use of Electronic mail

3.1.4 NETWORK OPERATIONS

Convenor: Bernhard Stockman

Issues relating to the day-to-day operational aspects of networking are covered by this group, such as:

- Service-Level Agreements
- Network Management
- Network Monitoring and Capacity Planning
- Accounting

- Charging within networks and between operators
- Operation of security policies

3.2 INFORMATION SERVICES AND USER-SUPPORT

Convenor: Jill Foster

This group covers access to network information services of various sorts (retrieval services and simple filestores): protocols, architectures, user-interfaces, retrieval strategies etc. The remit also includes, the use of the network and its information services for group communication (bulletin-boards, shared documents, mail servers etc). A prime part of this group's activities involves promoting the use and acceptance of such services within the user community and in collecting user-requirements. An additional activity is in the deployment of this technology to provide information to end-users on how to access the network.

3.3. INTERACTIVE MULTIMEDIA AND MULTIMEDIA DOCUMENT TRANSFER

Convenor: John Dyer

The purpose of this group is to address issues associated with the encoding of human-oriented documents (in a very general sense) which contain more than simple ASCII text. and the problems connected with the synchronous/interactive aspects of multimedia such as conferencing applications. Examples of such issues are:

- Surveys of protocols and equipment
- Evaluation of prototypes
- Initiation of or participation in pilot projects
- Standards for character-set encoding and representation
- Standards for audio and graphic representation
- Standards for incorporating mixed modes & representations within single document
- Display and composition technology and products

3.4 SECURITY TECHNOLOGY

Convenor: Klaus Truoe1

This Working Group is concerned with Security Technology, rather than the strictly operational issues associated with implementing and tracking security policies. Likely issues will include:

- Authentication
- Mechanisms for establishing networks of certification authorities
- Secure applications

3.5 CHARACTER SETS

(This group was formally established on Sept 24,1992)

Convenor: Borka Jerman-Blazic

This Working group is to provide a forum for coordination of European efforts to introduce support for multiple character sets in networked

services, to promote standards and practices which allow the inter-operation of services using different character sets and to encourage the availability of commercial products supporting multiple character sets. Likely issues will include:

- Determining the requirements of the RARE community for future support of the languages it encompasses
- Developing mechanisms to allow existing services and terminal equipment to usefully transport and display multiple character sets
- Identifying the issues of fallback representations for Roman-based characters and transliteration for non-Roman alphabets

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