10 May 1991

TO: Members of AARNet Advisory Board

SUBJECT: **Development Grants**

The report from Robin Erskine indicates a minority view
(attributable to me).   I therefore should explain my
differences.

As background, I should mention that my belief was and is
that the long range aim of AARNet was to conform with OSI
standards but as an interim move IP would provide a practical
transport mechanism.   Indeed, our earlier minutes record
and approve this approach.   Thus, I support and indeed the
Board should support the ISODE (the ISO Development Environ-
ment) which is to provide a useful transition path between
two protocols. The attached extract from the ISO Development
Environment User Manual (Marshall T Rose, March 9 1991)
is a relevant summary of the extreme positions, although
I should be quick to point out that the positions of the
committee members would not stand rigid at either extreme.
Nevertheless, I would be influenced more by movement to
OSI and international standards and, therefore, I would
place a greater emphasis on such projects as X.25 (packet
switching) and X.400 (E-mail), i.e. in the same way as I
supported X.500 (Directory Services).   I believe the X.25
and X.400 projects should go ahead.   Perhaps we could do
as we did with the Directory Services project and involve
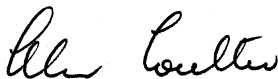more than one university.

Another point of difference relates to the view that AARNet
should not fund what other members of the committee referred
to as Research Projects.   In particular, the packeting of
video and audio information from conferences or lectures
for transmission over AARNet. Any argument about "development"
projects and "research" projects is not relevant.   What
does matter is that the most important future applications
over AARNet will use multi-media presentation technologies.
This experimental project offered by the University of Sydney
is essential for our better understanding of the problem
and hopefully enable demonstration of the value of the
product as well as the implementation of pilot systems.
The people who are to work on the project should ensure
a good outcome from this project.

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There would appear to be a view (perhaps not strongly held by the majority) that we should await the commercial availability of products before we do anything at all within AARNet. I certainly agree that product offerings through AARNet should be for tested and approved products. We must, however, maintain and enhance our technical abilities to assess and implement products and be able to contribute, albeit slightly, to the worldwide development groups.

The original idea of the grants was to maintain the expert groups in the member installations working on approved projects rather than build up a large central group. I am sure Geoff Huston would be the first to agree that the smooth installation and operation of AARNet has a great deal to do with the quality of the networking staff at key sites. The future strength of AARNet and its ability to react to emerging needs in international standards, new applications and diversity in user needs and traffic will depend on the depth of its technical strength. The project grants should be used to develop this technical support throughout member sites of AARNet.

Thus, it can be appreciated that I am not in favour of any reduction of the project grant fund. At the last meeting of the Board, it was mentioned that the committee should be more active in suggesting areas of development that would be strategic to the future of AARNet. Unfortunately, this did not occur but I hope the Advisory Board will give us a chance to come up with relevant projects (e.g. in the area of network management including emerging international standards) for which sites can bid before we close the gate and reduce the fund.

Alan W Coulter

Attach:

tion experience as the Internet community, they have a deep commitment to International Standards. It is intended that this release gives vital early access to prototype facilities.

1.1   Fanatics Need Not Read Further

This software can support several different network services below the transport service access point (TSAP). One of these network services is the DoD Transmission Control Protocol (TCP)[JPost81].[2] This permits the development of the higher level protocols in a robust and mature internet environment, while providing us the luxury of not having to recode anything when moving to a network where the OSI Transport Protocol (TP) is used to provide the TSAP. However, the software also operates over pure OSI lower levels of software. it is mainly used in that fashion — outside of the United States.

Of course, there will always be "zealots of the pure faith" making claims to the effect that:

> *TCP/IP is dead! Any work involving TCP/IP simply dilutes the momentum of OSI.*

or, from the opposite end of the spectrum, that

> *The OSI protocols will never work!*

Both of these statements, from diametrically opposing protocol camps are, of course, completely unfounded and largely inflammatory. TCP/IP is here, works well, and enjoys a tremendous base of support. OSI is coming, and will work well, and when it eventually comes of age, it will enjoy an even larger base of support.

The role of ISODE, in this maelstrom that generates much heat and little light, is to provide a useful transition path between the two protocol suites in which complementary efforts can occur. The ISODE approach is to use the strengths of both the DDN and OSI protocol suites in a cooperative and positive manner. For a more detailed exposition of these ideas, kindly refer to [MRose90] or the earlier work [MRose86].

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[2]Although the TCP corresponds most closely to offering a transport service in the OSI model, the TCP is used as a connection-oriented network protocol (i.e., as co-service to X.25).