Kedves MT tagok és AT elnökök!

Az 1991. december 11.-i Műszaki Tanács ülésének napirendje a
következő (sorrend változhat):

1. Beszámoló az EARN Igazgató Tanács üléséről
2. Nemzetközi hálózati kapcsolat
3. PHARE, Világbank
4. Tájékoztató az adatbázis helyzetről
5. Tájékoztató az Operatív Bizottság üléséről
6. Tavaszi konferencia
7. TRILLA DECNET DOS-os környezetben
8. Koncepció véglegesítése.

Budapest, 1991. december 5.


                                    Tóth Beatrix


Mellékelt anyagok:

1. Csaba László: A PHARE javaslat újabb változata
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                          DRAFT
                    Financial proposal



Project: Regional support for R&D computer communication


1.   Identification

     Country:    Regional
     Project:    Support for the connection of Universities and
                 Research Centers to the COSINE network infra-
                 structure
     Year:       1991
     EC contribution: 2.5 MECU
     Accounting number:
     Sector classification: Infrastructure, R&D
     Responsible authority: Commission, in coordination with
                            designed national organizations

2.   Summary

     The aim of this programme is to help the countries of Central
and Eastern Europe prepare for the upgrading and expansion of
their existing computer networks, by increasing the connectivity
with the Western European networks.  The resulting improvement of
their R&D infrastructure will help their integration into the
European and world-wide scientific community and will contribute
to their longerterm scientific and technological capacity, a basic
condition for lasting economic revival.  The expenses for the
proposed programme mainly concern initial installation and
adaptation of equipment (X.25-switches, interfaces and
communication servers) as well so software.  Some support for
planning studies and for telecommunication lines is also foreseen.

3.   Background

     The establishment of a fully functional market economy in the
countries of Central and Eastern European requires a revitalized
R&D community which is exposed to, and maintains close contacts
with their peers in the rest of Europe and indeed throughout the
world, both in academia and in industry. An essential tool for
researchers to accomplish this goal is access to appropriate
telematics and networking services.

The Member States, the Commission and other countries in Europe are funding the COSINE (Cooperation for OSI Networking in Europe)) project to provide pan-European telematics services to the R&D community, while at the same time complying with the EC's standards, research and technology policies.

The national research network organizations of the countries participating in COSINE are grouped together in the RARE organization (Reseaux Associœs pour la Recherche Europœenne), of which several countries of Central and Eastern Europe are now also associated members. RARE functions as a main contractor for much of the COSINE work.

The project proposed will allow research workers in Central and Eastern Europe to join COSINE and to benefit from its services and results. While the immediate impact of such participation on the economic reform process now underway is difficult to quantify, it is obvious that many of the users may use its services in ways that may have a noticeable effect on the process, not in the least place because of the enhanced interaction with industrial research and development which is made possible.

## 4. Objectives

To help the countries of Central and Eastern Europe improve their R&D infrastructure, by increasing the connectivity with the Western European networks. To enable each of the countries to access the existing COSINE network infrastructure (IXI) from a numb er of research sites inside the country. Both the OSI (Open Systems Interconnect) protocol specified by ISO, and the Internet Protocol (IP) specified for many existing computer networks should be usable.

Countries involved in the present proposal are Bulgaria, Czechoslovakia, Hungary, Poland, and Rumania Extension to Albania, the Baltic States and Yugoslavia can be envisaged at a later stage.

## 5. Description

The connectivity to be provided consists of an external component (towards Western Europe) and an internal one (between research sites).

## 5.1 External connectivity

Basic external connectivity is to be provided through an international line (preferably 64 kbps) to IXI or a network which is itself attached to IXI (e.g. ACONET or WIN). The line ends in an X.25 switch. Higher level services are provided through an OSI Entry Point Station (EPS) and an IP EPS (i.e.an router). Together with the switch they should form a well-managed connectivity point.

The costs of the international line are recurring costs (rental). The other costs concern installation (and software adaptation) only.

## 5.2 Internal connectivity

There are several options for distributing and collecting data traffic into and from the country. The options depend very much on national circumstances such as the availability of circuits, number of research sites, etc. It is assumed that the multiprotocol service is provided through an X.25 infrastructure. This includes X.400-based electronic mail, and such IP services as are desired.

The whole service infrastructure the comprises a number of X.25 switches, OSI-and IP-Entry Point Stations. The amount of equipment depends on the number of sites connected and on the existing infrastructure.

# 6. Cost estimates

## 6.1 External connectivity

Assuming 5 countries and one X.25 switch (25 kECU) as well as OSI and IP Entry Point Stations (25 and 50 kECU) per country, one estimates 500 kECU of non-recurring costs. The lease of one international line could be estimated at between 30 and 100 kECU per annum (depending on the grade of service). For the first year, this adds some 300 kECU overall.

## 6.2 Internal connectivity

Costs for any telecommunications lines in the country (connections between sites) will be borne by the national research network organizations, i.e. they are not part of this programme's budget. Thus the costs are directly proportional to the number of research sites to be connected. An indicative list of desired sites has been drawn up by the national research network organizations as follows:

| Country | no. of sites |
|---|---|
| Poland | 11 |
| Czechoslovakia | 11 |
| Hungary | 8 |
| Rumania | 5 |
| Bulgaria | 5 |
| Total | 40 |

In each country, a minimum of three sites will be chosen to constitute the initial network. The national organizations will ensure that the choice represents the first priority. At 100 kECU per site, this comes to 1500 kECU.

## 6.3 Project management

For the general project management, including planning studies, and the use of experts, an amount of 100 kECU should be foreseen.

## 6.4 Overview

| External connectivity | kECU |
|---|---|
| installation costs | 500 |
| international lines | 300 |
| | |
| Internal connectivity | |
| 15 sites | 1500 |
| | |
| Project management | 100 |
| Contingency reserve | 100 |
| Total | 2500 |

# 7. Implementation

The Commission will execute this project in collaboration with designated organizations in each of the beneficiary countries, which will be the national research network organizations already referred to above, i.e. the ones providing computer communication between Universities and Research Centers.

For the part of the project representing local installation (equipment and software adaptation) a call for tenders will be issued, drawn up by the Commission in consultation with these national organizations and experts from their West-European counterparts (through RARE). The tenders may be in separate lots according to the needs of the individual beneficiary countries. They will be evaluated by the national organizations in collaboration with the Commission and experts. All contracts will be signed with the suppliers by the Commission on behalf of the respective national organizations.

For the part of the project representing operational costs for international telecommunications (rental of lines and somecentral services from IXI) the national organization will be reimbursed upon presentation of appropriate documentation, within the limits of the budget component foreseen.

8. Follow-up-Evaluation

Regular follow-up will be performed by the Commission services. A final report will be produced by the national organizations in each of the beneficiary countries and this will be evaluated by independent experts.