UNIVERSITY OF MINNESOTA
TWIN CITIES

All University Senate
Consultative Committee
614 Social Sciences
267   19th Avenue South
Minneapolis, Minnesota 55455
Telephone (612)373-3226

SENATE CONSULTATIVE COMMITTEE

December 1, 1983
626 Campus Club
12:30 - 3:00

AGENDA

1. Minutes of November 17 to be distributed at meeting.

2. Report of the Student Chair.

3. Report of the SCC Chair.

4. Report of the Finance Committee.

5. University Task Forces and the Senate and its Committees.

    (NOTE: See attached memo on possible Senate policy
    and attached long sheet with excerpts from three
    documents concerning task forces and special committees.)

6. Proposal for Building Excellence in Additional Units.

    (NOTE: See memo from J. H. dated October 31 and
    distributed with the agenda for the November 3 meeting.)

7. Supercomputing at the University and Changes at University
    Computer Services.

    (NOTE: See attached memo.)

UNIVERSITY OF MINNESOTA

University Senate Consultative Committee
614 Social Sciences
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Minneapolis, Minnesota 55455
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MINUTES   APPROVED 12/15/83

SENATE CONSULTATIVE COMMITTEE
December 1, 1983
626 Campus Club
12:45 - 2:45

Members present: Charles Farrell, Virginia Fredricks, Phyllis Freier,
John Howe (Chairperson), Susan Hunstiger, Julie Iverson, Marvin Mattson,
Lisa McDonell, Jack Merwin, Mitch Richter, Irwin Rubenstein, Paul Schulte,
Scott Singer, Donald Spring, John Turner.

Guests: Perry Blackshear, Bill Collins (Daily), Vice President Keller, Associate
Vice President Linck, President Magrath, Mary Jane Plunkett, Peter Roll,
Maureen Smith.

1. Amended agenda.

    A. Supercomputing and personnel changes in UCC and UCS. Associate
    Vice President Al Linck and Mr. Peter Roll were to join the meeting at
    1:00 and Vice President Keller somewhat later for this discussion.

    B. President Magrath will join the meeting at 2:00 to bring some
    pressing business to SCC.

2. Report of the Student Co-chair. Paul Schulte.

    - SSCC has begun to get regular updates on the Task Force on the Student
      Experience.

    - SSCC has an interest in Student Committee on Committees' request to
      the Senate Budget Subcommittee.

    - MSA carolers invite SCC faculty to join them and some administrators
      at noon on December 7 for singing on Northrop Mall and in the Campus
      Club and for a reception afterwards in CMU.

    - Mr. Schulte introduced Susan Hunstiger, student representative from UMC.

3. Report of the Finance Committee. Professor Rubenstein summarized the agenda
for this afternoon's meeting. It includes the question of reopening the O&M
budget in the 1984 legislative session.

4. Supercomputers at the University and closely related matters.

    Professor Howe thanked Vice President Linck and Mr. Roll for giving the
committee their time and added that the SCC has a responsibility to understand
the issues involved.

A. Supercomputing - Cooperation with Industry.

The elements include:

- The University's integral role in making Minnesota the supercomputer capitol of the world;

- Developing a supercomputer institute (which will require a legislative appropriation);

- Building the Electrical Engineering/Computer Science building for which the planning monies have already been requested;

- Doubling the size of the Computer Science faculty, which is in accordance with college plans;

- Getting an endowed chair in Computer Science Technology;

- University relations with industry, including selling supercomputer time to external users;

- Opportunities for students and faculty.

Dr. Linck said the possibility of a supercomputer institute for the University began to come to fruition one week after the November Regents' meeting. He distributed copies of President Magrath's November 22 letter to the Regents. The background includes the state's desire to retain some particular major industries, including ETA Systems INC., and Mayor Latimer's wish to house a supercomputer in St. Paul.

If the University acquires a second supercomputer, said Dr. Linck, it would be paired with the Cray I. Together they would provide a network around the state.

(1) Background. Mr. Roll provided a historical sketch of recent computer use in society and the University. Over about the past four years there have been rather profound changes in computer technology and how computers are used in society. There has been inertia in the universities. It took a while for the changes to become visible here. He called what has just burst out here a pent-up response to what has been going on.

At the domestic level the changes are reflected in the proliferation of microcomputers in many aspects of people lives, including within University colleges and departments. At the international level, the relative change in the U.S. economic position, and U.S. awareness of Japanese progress in the computer industry, especially in large computers, has led attention to super-computers.

Mr. Roll told SCC that in 1981 the UCC, up through its chain of command, decided to replace its Cyber computer with a size VI supercomputer Cray I. It was the first university to do so. We did it, he said, because the analysis concluded the cost of computing on this size machine would be less than on small or medium sized computers.

89% of University research computer funding has been paid for by user fees. Most universities provide much more than the 11% provided here. A major advantage of this self-sufficiency is that when any replacements are needed we can just go out and buy them without waiting for a vote from whomever provides the subsidy.

After the University bought the Cray I, its customers were affected by the recession and we had a deficit for several months. UCC director Dr. Peter Patton and his colleagues went outside the University to find out what kind of computer work industries could use. Subsequent selling of computer use brought in enough revenue to support the system. Industrial research and development labs were pleased with the basically no-frills kind of computing service they could get from UCC.

As one thing led to another, Dr. Patton developed the idea of establishing a supercomputer consortium which would be a structure whereby the University of Minnesota could house state-of-the-art large-scale computing capability.

While the Cray I had underused capacity, it was no longer at the cutting edge of computer technology. Large R&D labs have the same problem in keeping up with the technological advances. The proposed consortium looked to be a very productive cooperation. The University would have the equipment in partnership with industry. Industry would get work done which was also of interest to the University.

(2) The academic center. There is a well-founded interest in developing a University academic center for large-scale scientific computation which would draw on participants from several disciplines. We have some real strengths (in Math, Chemical Engineering, Aeronautical Engineering, and other departments).

Vice President Keller appointed a task force, co-chaired by Dr. Patton and Professor George Sell, to make recommendations. That task force has recently reported.

Vice President Keller, who joined the meeting at this point, said the recommendations included reallocating four positions to IT by 1985-86.

The Computer Science Chair.

At the point when the state was upset by losing Microelectronics and Computer Technology Corporation (MCC) to Texas, people asked why the University didn't establish a chair in computer science so the University's interest would be visible. Vice President Keller held talks with Mayor Latimer. Mayor Latimer in turn explained to business leaders how chairs are established -- by endowment -- and they showed interest.

Vice President Keller told SCC we can attract a prestigious chair for Computer Science with the promised endowment. The proposed consortium of Minnesota users and manufacturers to supply advanced equipment and to develop software requires NSF funding. To be competitive at NSF we must first hire our chair. With our endowement for the chair, and probably the best complex of hardware in the country, Vice President Keller thinks we can get an outstanding person at the top. We have people in mind for that position, he said, and we are now amplifying around the chair.

All of these developments are part of the IT plan, he added. None are being done in an ad hoc way. Some parts will be accomplished on soft funding.

Asked about origins of the supercomputer center idea, Vice President Keller said that he raised the proposal, but then discovered that Professor Sell had raised the same proposal about six months earlier.

<u>Significance of these developments.</u>

Professor Howe commented that there had been a fortuitous combination of internal initiatives with external enthusiasm. The size and complexity of the project and the speed with which it has broken forth leaves some of us somewhat dazed, he added.

Vice President Keller told the committee the current version of the development all came together only <u>because we had an Institute of Technology plan.</u> Except for two positions, the increase in the number of faculty for Computer Science and Electrical Engineering is the same as in the IT plan.

Professor Turner asked if Vice President Keller could project ten years ahead a picture of community use, faculty use and student use of the technology.

Vice President Keller made these points:

- We are now trying to correct the present system under which no internal computing is available except by paying almost 90% of costs, and make computing available and affordable to our faculty and students. <u>That availability is our aim.</u>

- The work is here to be done; there just have not previously been the resources.

- He foresees no disadvantage and no loss for University losers.

- He does not think the University will ever request legislative funding for supercomputer functions.

- He thinks the University will become the national research center for supercomputing.

- We will not ignore the need to balance supercomputing against micro-computing, and we will tie other campus computers into the main one.

- We will continue our training for the naive user.

- We will develop external relationships.

- We will not ignore telecommunications.

- With an outstanding chairperson we can foster new software development and basic research.

Professor Freier raised the question of if and how it is possible to really <u>stay</u> at the cutting edge.

Professor Blackshear stated the concern of the Senate Committee on Research that the University is becoming too much a service provider and only secondarily available for academic computing. Vice President Keller responded that that viewpoint ignores the fact that the University has halved the cost to its customers. He reemphasized that <u>the service element is what supports the academic use.</u>

Mr. Schulte noted that it is the legislature, not the governor, which has the prerogative regarding appropriations. Vice President Keller said he believed

legislative leaders were consulted prior to the governor's announcement (about the whole package of plans related to ETA's staying in Minnesota). Mr. Schulte asked if the University is reopening its O&M budget request, and Dr. Keller said the University might seek to do so but that computing would be only one of several items touched.

Professor Rubenstein encapsulated the fundamental nature of the University center with this description: it will provide the intellectual underpinning for the use of the hardware developed outside the University.

Professor Turner asked whether University employees or industry would win patents on software developed. Mr. Roll explained that software is rarely patentable and is protected instead by copyrights and by trade secrets. Moreover, the software foreseen would mostly be for immediate and one-time use and not very salable. At any rate, University patent policy will not change, he said. The University retains the rights to the work developed on contract with us.

Professor Mattson inquired about the possibility of the University consortium getting locked into higher costs of one breakthrough when someone else then broke through into a much lower cost. Mr. Roll called that a real problem and said we try to plan in enough flexibility to avoid getting trapped.

In response to Professor Merwin's question the guests said the existing main frame will be kept. The supercomputer re uires a main frame in front of it.

B.   Personnel Changes in University Computing.

(1) Past. Vice President Keller summarized: Peter Patton has resigned from the UCC and Frank Verbrugge, 69, is retiring as head of UCS. Several other UCC personnel resigned. Employees were unhappy at being reassigned to work in supercomputer areas with external clients instead of on University projects. They did not understand that that reassignment was the only alternative to large layoffs because the University decided it had to reduce funding to UCC. Some employees felt the University should be providing more service to the large numbers of naive users.

But, he said, the plan has worked out as we thought it would. The University has been able to subsidize more use and has trebled the number of non-supercomputer users (faculty and graduate students in units such as Education and CLA). But the people salaried directly by UCC were looking only at how that money was being used.

(2) Future. We will add the position of Assistant Vice President for Information Processing, said Dr. Keller, because of the need for an officer to manage all the related technologies, including the telephone system. He distributed copies of the position description for the new title. The successful candidate must both be technically capable and have a user perspective to complement the UCC staff perspective. Dr. Keller anticipates that in the reorganization of the top two levels of UCC one of the array of top positions will disappear so there will be no net increase.

Professor Howe asked if there was an appropriate place for faculty consultation on that final array and, if so, who would be the faculty to include. President Magrath and Vice President Keller said that question was open.

Vice President Keller said the search for the new assistant vice president would be a national one and would begin immediately. The search committee will include deans and faculty; it is uncertain whether it will include any students. There is an urgent need to get someone in this "keystone position" and give the person the authority to make decisions. We have, for example, a very close timeline for moving ahead on our telecommunications.

Replying to Professor Blackshear's question, Dr. Keller said 10% of total use of University computers is outside use.

Possible effects on appropriations.

Professor Spring expressed his worry that the state would realize it could not withdraw support from computing and so would instead withdraw support from other parts of the University's budget. Vice President Keller acknowledged that that concern was very hard to answer. But, he added, if we turn our backs on the state when the state comes to us for help, we not only won't get that money, we will probably lose other state money as well.

Professor Howe commented that because the legislature does respond to the University, we need to think about the overall stance we present to the legislature over a period of five years or so. Vice President Keller said we are making it clear that supercomputing is not at the top of our agenda and that we are responding in this instance to the state. We haven't dropped anything from our list of priorities on the basis of having to substitute this.

Professor Spring asked what items in the O&M budget would be reopened, and President Magrath replied that there was little change other than in the capital request.

This part of the meeting concluded at 2:45 p.m. A short executive session with the President followed.

Respectfully submitted,

Meredith Poppele, Executive Assistant

November 22, 1983

To: Senate Consultative Committee

From: John Howe

Re: Memorandum concerning SCC's discussion of things computational
        at our December 1st meeting.

Many, many things seem to be happening with great rapidity in recent
days, having to do with computer-related matters. Not all are
related to each other, but taken together they represent a fascinating
set of circumstances. I had hoped that Vice President Keller could
meet with us for the discussion, but he cannot. I propose that we go
ahead anyway and try to sort out some things, perhaps in anticipation
of a later discussion with him.

As starting points, we might 1) see what we know about recent and
pending changes in the University Computer Center and University
Computer Services, and 2) discuss recently-announced University
commitments to the development of supercomputing here at the
University and in the region. To jog your thinking on the latter
issue, I've attached a copy of a story from the St. Paul Dispatch,
dated November 21. Since the two issues touch upon both research
and planning, I'll invite Perry Blackshear and Mark Brenner to join
us.

:mp

UNIVERSITY OF MINNESOTA | Office of the President
202 Morrill Hall
100 Church Street S.E.
Minneapolis, Minnesota 55455

November 22, 1983

TO: The Honorable Charles H. Casey
     The Honorable William B. Dosland
     The Honorable Willis K. Drake
     The Honorable Erwin L. Goldfine
     The Honorable Wally Hilke
     The Honorable Lauris Krenik
     The Honorable David M. Lebedoff
     The Honorable Verne E. Long
     The Honorable Charles F. McGuiggan
     The Honorable Wenda W. Moore
     The Honorable David K. Roe
     The Honorable Mary T. Schertler

Dear Ladies and Gentlemen:

I thought you might be interested in receiving a copy of the Statement on
Supercomputers in Minnesota that I made at a press conference convened by
Governor Perpich on Monday in connection with the decision of ETA Systems (the
CDC spin-off) to announce that its permanent location will be in St. Paul. I
believe that most of you have been contacted in advance with regard to Univer-
sity involvement in this effort to keep ETA in Minnesota and the positions and
commitments that we made -- all of which, I believe, are fully consistent with
Regents' policies and with activities already under way at the University of
Minnesota.

Aside from the fact that our participation in this venture is consistent with
our educational mission in terms of outreach, teaching, and research, it also
signifies our eagerness, wherever appropriate, to collaborate with the State
and the private sector on behalf of improving the Minnesota economy. One
major benefit for the University is that the City of St. Paul, thanks to the
efforts of the St. Paul Chamber of Commerce and Mayor Latimer, will be making
available to the University over a ten-year period the sum of $1 million for
the purpose of establishing a major Chair in Computer Science at the Univer-
sity.

Many other elements of the commitments that Governor Perpich hopes to pursue
with regard to supercomputing in Minnesota will need legislative action and
concurrence. This involves, of course, the need for planning money for the
proposed Computer Science/Electrical Engineering facility, which we know that
the Governor will recommend (he will also be recommending, we are told, the
Animal Science facility and other facilities). The Governor also will be
making proposals with regard to the suggested Supercomputer Institute that
would be located and operated by the University of Minnesota. Ken Keller has
details on this and would be more than happy to share the plans and informa-
tion with regard to the proposed Supercomputer Institute, which is still in
the process of being developed as a firm proposal.

The Board of Regents
November 22, 1983
Page Two

Please let either Ken or me know if you have any questions or would like any kind of additional information.

Cordially,

C. Peter Magrath
President

CPM:kb

Enc: Statement on Supercomputers in Minnesota

cc: Mr. Duane A. Wilson, Secretary of the Board of Regents
     University Vice Presidents
     Associate Vice President Al Linck, Academic Affairs

November 21, 1983
STATEMENT ON SUPERCOMPUTERS IN MINNESOTA
C. Peter Magrath, President
University of Minnesota

The University of Minnesota is gratified that ETA Systems
has decided -- correctly, we believe -- to locate its supercomputer
enterprise in our State. This is a significant step in Minnesota's
determination to be the computer capital of the world and to pro-
vide the business and educational leadership in supercomputing.

The University recognizes the concentration of computer
strength in our State, and we value our collaborative relationships
with all of the computer enterprises in Minnesota. Similarly, the
University applauds the initiative and commitments made by the
State and the City of St. Paul to enhance the environment for
supercomputing.

We believe that we have both the responsibility and the capacity
to provide critical support for this environment as part of our edu-
cational mission, especially through our Institute of Technology.
Our objective is clear; we are committed to world class excellence
in computer sciences and electrical engineering. We aim to get there
by developing these programs so that we rank among the top ten
American universities in these fields.

Here are our plans. Some activities are underway; others will
take effect in the future. We will pursue them diligently as matters
of high priority.

● In order to bring about the sharing of computing resources
  among the post-secondary education systems in the State, we
  hope to establish a supercomputer institute at the University.
  A computing network for educational purposes will provide the

power of the large mainframe equipment at the University to
users throughout the State.

- The University is seeking funding to begin planning a $56
million Electrical Engineering/Computer Science building to
house a variety of technological activities; this is our
#1 priority for new University capital construction development.

- Four new faculty members will be hired for the Department of
Computer Science, and the Institute of Technology intends to
double its Computer Science faculty to about thirty members
during the next several years.

- Two mathematicians with special qualifications in computer-
related computation will be added to the Department of Mathe-
matics faculty; two more will be added to the Department of
Computer Science.

- A recurring allocation of $300,000 a year has been made to
support faculty research in the areas of vector and parallel
processing. This will enable faculty members to use the
capacities of supercomputers in new applications.

- The University has developed a plan for bringing together
supercomputer manufacturers, the University, supercomputer
users, and the National Science Foundation to create a consor-
tium that would provide state-of-the-art equipment with which
new software can be developed for applications in a number of
different industries. We are actively pursuing our proposal
with the N.S.F..

- The Institute for Mathematics and Its Applications is prepared
to devote its program for one year to activities associated
with numerical analysis. This will include visits from scholars
and the presentation of academic seminars that would make Minne-
sota the world center for numerical analysis in that year.

These initiatives will have a substantial effect, providing

the educational research atmosphere in which Minnesota's computer

industry can continue to grow and prosper. I join the Governor

and the Mayor in warmly applauding ETA Systems for its wise decision

to join Minnesota's other high quality computer companies in a high

quality State. We look forward to working with you and your friendly

rivals in professional and educational ways that will be mutually

beneficial -- and will keep Minnesota #1 in supercomputing

December 2, 1983

Vice President Kenneth Keller
Office of Academic Affairs
213 Morrill Hall

Dear Ken:

Let me thank you, Al, and Peter Roll for bringing us
up to date yesterday on things computational here at the
University. It's obvious that very important and promising
developments are underway. And certainly it makes sense
for us to take advantage of the Governor and business's
initiatives, as long as they are consistent with our own
principles and understandings.

The concerns that some of us raised yesterday --
1) having balanced computing facilities, 2) not skewing
our own total educational priorities in response to
outside pressures, 3) not by-passing our internal consultative
procedures, and 4) looking carefully at arrangements we
develop with the computer industry -- are not new ones.
It was good that we talked about them again.

We also will be pleased to consult with you about
structuring the search for the new Assistant Vice President
and about plans for reorganizing the administrative structure
of UCC and UCS. On the latter issue, it might be best to
put together a special, informed, ad hoc group of faculty
and administrators. Perhaps some faculty from the Senate
Research Committee could be asked to participate. At any
rate, we might talk about that when you're ready.

Cordially,

John Howe, Chairperson,
Senate Consultative Committee

JH:mp

c: Al Linck
    Peter Roll
    Perry Blackshear

STATUS REPORT:
TELECOMMUNICATIONS (TELEPHONE) SYSTEM REPLACEMENT PROJECT

NOVEMBER 10, 1983

OBJECTIVES OF THE PROJECT

To obtain a telecommunications system for the University of Minnesota which will

- replace the present telephone service with a modern, state-of-the-art telephone system, and

- provide a cable system and supporting communications infrastructure capable of accommodating the growth and development of data communications and information services during the next decade.

To acquire this telecommunications system at a cost comparable to the cost of maintaining its present telephone and data communications services.

To ensure that the first phase of this telecommunications system is operational in the new University Hospital when it opens in the first quarter of 1986.

MAJOR DECISIONS TO BE MADE

SITE SELECTION: A building to house the telecommunications system and operating staff and facilities will be required. A site feasibility study which examines the northwest corner of Oak and Washington Streets; the police block at Oak and University; and the Northrup parking lot is now under review.

SCOPE OF PROJECT - CONSOLIDATION OF COMPUTER CENTERS ON CAMPUS: The need to construct a building to house a telecommunications operations center presents an opportunity to consolidate the University's major computing centers adjacent to the communications facilities on which they will increasingly depend, resulting in significant operating economies and service improvements. A financial analysis of four options is being prepared:

1) telecommunications center (TELECOM) alone,
2) TELECOM plus University Computer Center (UCC),
3) TELECOM plus UCC plus Administrative Data Processing (ADP), and
4) TELECOM plus UCC plus ADP plus the other business and administrative operations now located at 1919 University Avenue.

PROJECT SCHEDULE (see attached diagram)

The driving force in this schedule is the Hospital construction schedule. In order to ensure that a new telephone system is operational in the University Hospital when it opens, a vendor must be selected and contract negotiated by the summer of 1984. Manufacture of telephone switching equipment to accommodate the University Hospital will require 12-15 months. If a decision cannot be made on a University system by summer 1984, the Health Sciences complex (which cannot be separated from the Hospital telephone system) will be forced to pursue options independent of the University's telephone service, resulting in increased costs and inconvenience to both the Health Sciences-Hospital complex and the remainder of the University.

(NOTE: The new University Hospital has been designed for a modern telecommunications system; its cable trays and conduits will not accommodate the type of wiring required for the University's current telephone system, and hospital services in the future will require a substantially greater use of advanced telecommunications features.)

PROCESS ANTICIPATED

NOVEMBER 1983: Completion of Site Feasibility Study (Office of Physical Planning – just completed and under review) and Financial Analysis of the scope of the project (Office of the Vice President for Finance – almost completed). These two studies will provide the basis for a selection of a DESIGN site and scope to be used by vendors as the basis for proposals to the University.

DECEMBER 1983: Decision by the University Administration and the Regents on the design site and the design scope to be included in the Request-for-Proposals; authorization to release a Request-for-Proposals to potential vendors.

BY THE END OF DECEMBER 1983: Development of detailed specifications for the University telecommunications system. These specifications are under development by the Project Task Force and two consulting firms. (Because of the magnitude of the project, responses will cost vendors several hundred thousand dollars, and it is important that the Regents indicate their intent to proceed with the project, PROVIDED THAT the vendor proposals are within the projected cost estimates ($20-25 million) and will not result in an increase in projected telephone costs.

APRIL-JUNE 1984: Final decision by the Regents on site and scope of project, and selection of telecommunications systems vendor(s), based on analysis and evaluation of the proposals received. The evaluation and analysis will be based strictly and fairly on the DESIGN site and scope specified in the Request-for-Proposals.

JUNE-JULY 1984: Negotiation of a contract with the selected vendor, based on the FINAL site and scope established for the project. At this time, any cost increases or decreases associated with a change in location or scope of the project will be negotiated, based on the selected vendors' proposals, and incorporated in the final contract.

AUGUST 1984: Manufacture of equipment begins.

(see attached schedule for details of the project beyond this point)

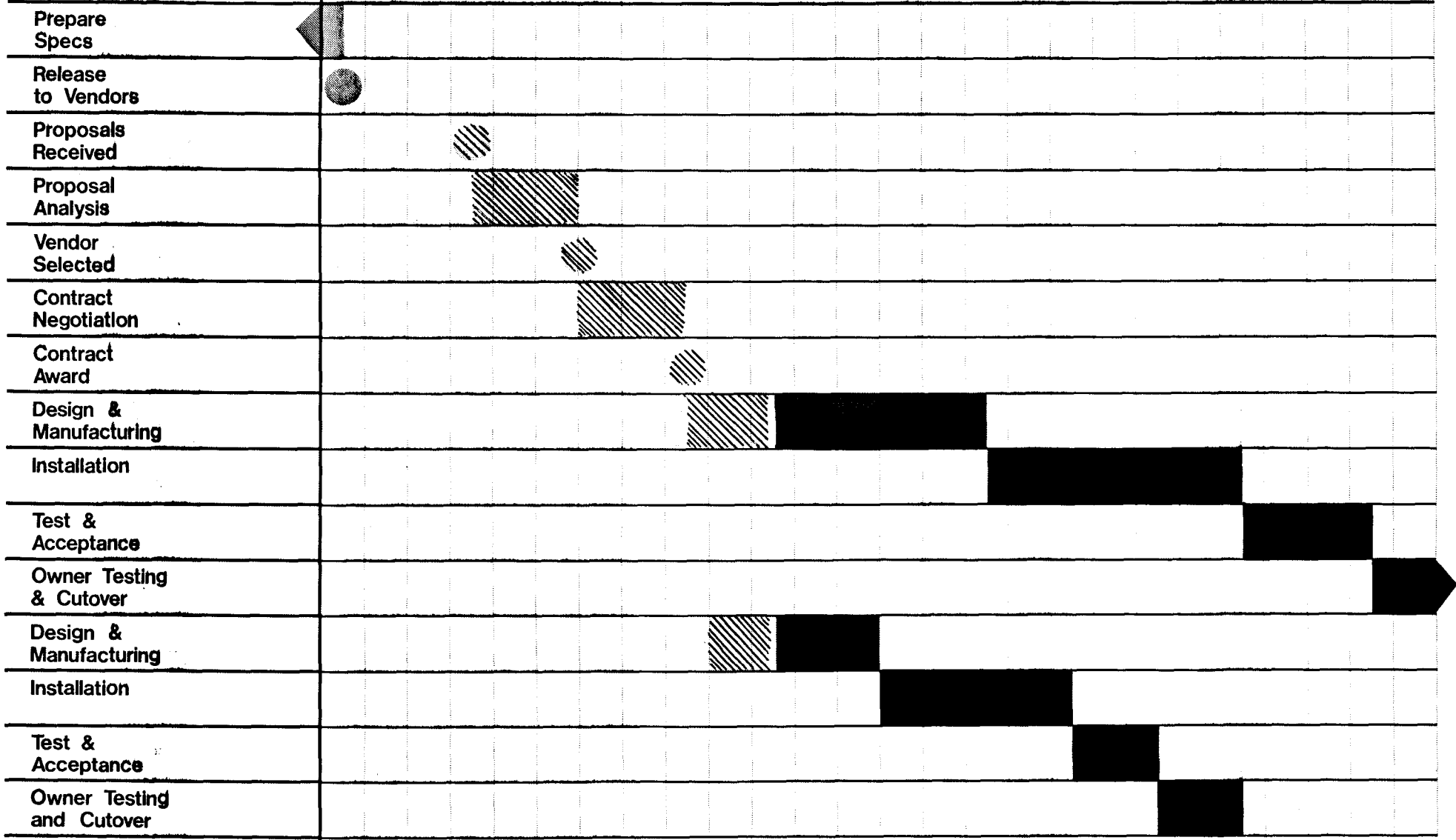| project/activity/task	month ▶▶▶

	83	84									85							85	86					
	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL

MAIN SWITCH

- Prepare Specs
- Release to Vendors
- Proposals Received
- Proposal Analysis
- Vendor Selected
- Contract Negotiation
- Contract Award
- Design & Manufacturing
- Installation
- Test & Acceptance
- Owner Testing & Cutover

UNIT J

- Design & Manufacturing
- Installation
- Test & Acceptance
- Owner Testing and Cutover

project/activity/task	month ▶▶▶

Project:	Prepared by:	Date:	Telephone no:

POSITION DESCRIPTION:

ASSISTANT VICE PRESIDENT FOR INFORMATION PROCESSING

DESCRIPTION:

The Assistant Vice President for Information Processing reports to the Vice President for Academic Affairs and the Vice President for Finance and Operations. The purpose of this new position is to serve as the principal line officer for units and activities related to computing and telecommunications. This person will also serve as the adviser to the senior executive officers on all aspects of University operations which are affected by computing, telecommunications, and related information technology. The primary emphasis of the position will be on planning and coordination of these activities to serve the academic and administrative needs of the University as defined by its mission statement.

SPECIFIC RESPONSIBILITIES:

Line supervision of University Computer Services (to which the major academic computing centers report--the University, St. Paul, Health Sciences, West Bank, Duluth, Morris, Crookston, and Waseca Computer Centers); the Administrative Data Processing Division; and a Department of Telecommunications Services which will be established at the time this position is filled.

Planning for the appropriate organization of these operating service units to ensure effective and economical operations and to ensure that they are responsive to the broad range of needs for computing in the University and to the opportunities to apply information technology to University programs and operations.

Coordination and University-wide planning for departmental and special purpose computer and data processing systems; and for the telecommunications and supporting service infrastructure required to access other University information resources and to permit such systems to develop in an economical manner.

Development of strategic plans for computer and telecommunications services, facilities, and budgets to support the University's programs of instruction, research, and service and to support University operations; and development of biennial and annual budget and facilities plans and requests consistent with these plans.

Joint responsibility with the Director of University Libraries for the development of library automation systems, including an on-line catalog and the telecommunications facilities required to effectively access this and other on-line services.

Senior adviser to the University's central executive officers on matters related to computing, data processing, telecommunications, and related information services and on implications and applications of these technologies to University programs and operations; consultant to the University's operating officers (Provosts, Deans and Directors) on these matters.

Representation of the Vice President for Academic Affairs and other central officers on various University committees and task forces dealing with information systems technologies, applications, and implications or requiring expertise in these areas.

In cooperation with University officers responsible for various external relations, representation of the University and the University's plans and operations related to computer and telecommunications services to government officials and other external constituencies.

QUALIFICATIONS:

Advanced degree (Master's degree required, Ph.D. preferred) in engineering, science, mathematics, management information systems, or comparable technical discipline.

Five or more years of successful experience in planning and line or staff management of computer and telecommunications technology in a large, complex organization.

Significant experience in a large, diverse research university; understanding and experience in conducting or supporting academic research, undergraduate and graduate educational and public service programs.

Thorough knowledge of computer and telecommunications technology; demonstrated ability and motivation to keep abreast of advances in these fields and their applications.

Superior skills in written and oral communications--the ability to organize, coordinate, and express complex information and ideas clearly and succinctly for purposes of explaining, persuading, and facilitating the decision-making process, especially by senior University officials.

A combination of technical and executive ability, judgment, and maturity essential to successful coping in the academic environment of highly intelligent and knowledgeable professionals, as well as in the political environment of the University and the State of Minnesota.

Supercomputer firm to stay in St.

By Don Clark
Business Writer

A joint effort by the state, St. Paul and the University of Minnesota has convinced supercomputer maker ETA Systems Inc. to remain in St. Paul.

Incentives that include 22 acres of free land in St. Paul's Energy P__ and a major upgrading of computer science capabilities at the university helped persuade the young company not to accept offers to locate in other states.

ETA's goal is to develop by 1987 the world's fastest supercomputer, to be more than 12 times faster than the most powerful computer available today.

ETA, which was spun off from Control Data Corp. last summer, now has about 100 employees at temporary facilities in Energy Park. It expects to grow to 500 employees over several years.

Gov. Rudy Perpich today hailed the company's decision, and the effort to assemble the incentives, as a landmark event that will keep Minnesota's position as supercomputer capital of the world — and shape the economic future of the state for years.

"It is a virtual guarantee that Minnesota will become a magnet for the best minds and the most productive companies in the world," Perpich said.

ETA chose Minnesota despite the fact that offers from elsewhere were more generous, Perpich said. Officials at a press conference declined to discuss the details of other offers, but Perpich mentioned Texas, Georgia and Tennessee as contenders.

Lloyd Thorndyke, ETA ___ dent, said the company's ___ was heavily influenced __ __ provements at the university and the enthusiasm of St. Paul officials.

"We've looked at other locations but we now feel we've found what we need to succeed," Thorndyke said.

ETA ___

Computers

Paul

be based on designs and technology that were being developed at Control Data, which plans to retain up to 40 percent ownership in ETA.

The presence of so many veteran employees, and the intellectual atmosphere provided by Control Data and rival manufacturer Cray Research Inc., has always made outside observers skeptical that

■ Continued from Page 1A

ETA would leave the state.

Thorndyke conceded the company always hoped to stay. But he added that the high-risk supercomputer business, and the company's tough goal of building the world's fastest machines, forced it to consider other offers.

Incentives to keep the company and improve the state's standing in supercomputing include:

■ A $1 million commitment over 10 years for a chair in computer science technology at the university, with fund-raising led by the St. Paul Chamber of Commerce.

■ An Institute of Supercomputing at the university, to be established under legislative approval ___ ___ ___ at $3 million to ___ en-___

puter development and applications, and will seek to acquire at least one more supercomputer besides the Cray system the university now owns.

■ Low-interest financing from the St. Paul Port Authority to build an ETA headquarters and development center in Energy Park, in addition to giving the company the land for only $1.

■ A previously announced plan for a $56 million electrical engineering and computer science building at the university.

■ Help for ETA in landing a low-interest loan from the Small Business Administration.

■ A university effort to set up a consortium of supercomputer users and manufacturers to supply advanced equipment to develop programs for applying supercomputers. This proposal requires the

approval of the National Science Foundation.

Other university measures include a doubling of computer science faculty to about 30 members, the addition of four specially qualified mathematicians; $300,000 in recurring funds to support faculty research related to supercomputing, and cooperative efforts for one year with the university's new institute for mathematics and its applications.

ETA also will locate a small number of employees at a division at the University of Georgia in Athens. The division will develop advanced supercomputer programs.

Thorndyke said that university was selected because it has an advanced communications network

Issues cloud U of M supercompute

By Don Clark
Business Writer

As the University of Minnesota pursues a bold scheme to become a mecca for supercomputing, several questions stand out:

Are the university's growing ties with companies that build and use supercomputers proper?

Does it need additional supercomputers, when the one it has is only operating at 30 percent of capacity?

Should centralized systems be so heavily supported, when the growing numbers of microcomputers will probably affect more campus users?

Legislators and university regents are likely to raise such issues as they consider multimillion-dollar plans linked to incentives for supercomputer maker ETA Systems Inc. to remain in St. Paul.

There already are signs of opposition to the

Analysis

university's current direction. Fourteen veteran employees of the University Computer Center (UCC) resigned following a reorganization in May, many of them angry over sales of computer services to corporations since the university acquired a $5.5 million Cray-1 supercomputer in 1981.

"Going with the supercomputer pretty much superseded the university users," said Richard Franta, who resigned in October as head of a programming group after 19 years at UCC. "Personally, I don't feel that is the way the university should be going."

But Gov. Rudy Perpich and university administrators believe a greater commitment to supercomputing will work for the benefit of the entire university, nurturing Twin Cities supercomputer companies while making large-scale computers

available for students, faculty and others.

"We believe that the university has the responsibility and the capacity to provide critical support for an environment conducive to supercomputers as part of our educational mission," said university President C. Peter Magrath during a press conference last week that detailed the supercomputing plans.

Legislators will be asked to fund a $56 million electrical engineering and computer science building and an Institute of Supercomputing, expected to cost $3 million to $4 million the first year.

Other measures include a supercomputing consortium involving government, the university and industry — with a target budget of $60 million over seven years — and a chair in computer science technology, supported with $1 million from local businesses. Regents also are considering a new university telecommunications system worth up to $25 million.

Point of view

Minnesota economy
needs turning around

Mike Menning, Page 2

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Week of November 28, 1983

U of M supercomputer plans

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The new initiatives come amid rapid changes
affecting computer services for all segments of the
university, and for state agencies and others that
increasingly depend on them.

For example, some researchers feel a pressing need
for supercomputers, which are used mainly to
simulate complex phenomena and other problems
requiring vast numerical calculations. At the same
time, individual university departments are
increasingly bypassing central computers by
acquiring minicomputers and microcomputers in a
move toward decentralization.

Partly in response to such challenges, a
reorganization is being planned that would add a new
administrative czar over computer technology,
telecommunications and related areas. The new
assistant or associate vice president would report to